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AUTAR S. DHESI

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Editor :
SUTINDER SINGH

Higher Education in LDCs The Lessons of Experience

Autar S. Dhesi*

The World Bank carries out a lot of research to build up the intellectual basis for its lending operations with a view to improve their effectiveness. The Bank brings out books/monographs from time to time, based on the results of thematic reports and regional case studies commissioned by it, as part of its *Development in Practice* series. This note is mainly based on two such recent books: (i) *Higher Education: The Lessons of Experience*. 1994, Pp. X + 105; and (ii) *Priorities and Strategies for Education*. 1995, Pp. XV + 173.

The first specifically deals with higher education, our main concern here, and the second with the whole education sector. The objective is to highlight the main policy issues faced by less developed countries (LDCs) in the sector and identify the broad policy options. The analysis is in line with the World Bank's philosophy of encouraging private initiative and confining government's role to providing an enabling policy environment.

It is well recognized that higher education promotes social and economic development by building human and technical capabilities of a society. The development of higher education is highly correlated with the level of overall development. Technical change and institutional change are two key components of development. Higher education has an important role to play in facilitating these changes by helping to integrate advanced training and research with shifting economic realities. Adequately trained manpower has better capabilities to adapt to rapid technological changes, and thus facilitate efficient use of resources resulting in higher productivity and economic growth. However, the effectiveness of higher education institutions in contributing to development depends upon their ability to achieve excellence indicating both internal and external efficiency.

Most of the LDCs have invested heavily in higher education. As a result, it has been the fastest growing segment of education during the past twenty years, with enrollment increasing on an average by 6.2 per cent in low and lower middle income countries and 7.3 per cent per year in upper middle income countries. The rapid increase in enrollments has been driven by high levels of subsidization, and in some cases, guaranteed employment of graduates. In general, private rates of return have been higher than the social rates of return. However, the social rates of return of 10 per cent or more in many LDCs suggest that investments in higher education contributed to increases in labour productivity and higher long term growth.

Despite its cruciality in economic growth and social development, higher education is in crisis throughout the world due to financial constraints. The crisis is most acute in LDCs both because of relatively harsher fiscal adjustments and difficulty in containing social demand

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given low enrollment ratios. In most cases, expenditure per student has declined suggesting the fiscal unsustainability of enrollment growth. There has been general decline in quality. Further, the decline in academic standards in primary and secondary education has also affected the performance of higher education systems. However, corresponding to the problem of declining resources per student is the increasing inefficiency — both internal and external. The internal inefficiency is indicated by prevalence of low student-staff ratios, under-utilized facilities, duplicative course offerings, high dropout and repetitive rates, and a very large share of the budget devoted to non-educational expenditures such as student housing, food and other services. There has been a tendency to neglect the key inputs to instructions and research. At the same time, the share of non-salary instructional inputs has declined. The external inefficiency is indicated by largely socially irrelevant training as well as research output, and increasing unemployment of graduates.

While the rapid expansion of higher education has led to increased access to traditionally less privileged groups, higher education generally remains elitist. Further, public subsidies as a proportion of unit cost of higher education often far exceed the subsidies to primary and secondary education. Since students enrolled in higher education institutions are disproportionately from the upper end of the income distribution, high subsidies to public university students are not only an inefficient educational investment but also regressive public spending. In any case, due to serious fiscal constraints, quality improvements and enrollment expansion in most of the LDCs will be achieved with little or no increase in public expenditures. The experience suggests, however, that it is possible to achieve a well functioning, diversified, and a growing higher education system even as public expenditure per student declines.

The analysis of rates of return to education suggests that the sectoral approach should be a rational basis for reforms. The rates of return to education are very high in low and middle income countries. However, the country circumstances differ. But, in general, in economies with less than universal basic education, rates of return are greatest for primary education, followed by secondary and then higher education. However, economies with universal primary education that have enjoyed rapid growth, rate of return to secondary education is higher than to primary education. Each country, therefore,

needs to weigh carefully the right balance of resource allocation between the three education subsectors, considering the relative social rates of return at each level as well as the complementarity that exists between primary, secondary and higher education.

Since reform requirements, political and economic conditions vary considerably across countries, the relative importance of various options will obviously depend on specific country circumstances such as the level of income and the degree of educational development, for example, primary and secondary level coverage and the existence of private institutions. The implementation of reforms also has to consider the fact that the beneficiaries of the present pattern of higher education have the political clout to resist any change adversely affecting their position. In such a situation, gradual approach to reforms has a better chance of success.

However, experience suggests that the focus should be on four main directions for reforms: greater differentiation of higher education institutions, including the development of private institutions, diversification of funding sources for public higher education institutions, redefinition of the role of the state in higher education with greater emphasis on institutional autonomy and accountability, and introduction of policies explicitly designed to give priority to quality and equity objectives.

Increased differentiation in higher education is suggested to take into account the varied capabilities of potential entrants into the system. The development of non-university institutions, and encouragement of private institutions can help meet the growing social demand for higher education and make the system more responsive to changing labour market needs. This can also bring down the average cost per student without adversely affecting quality. The experience shows, however, that if public institutions are to achieve higher quality and greater efficiency, they need to mobilize increased private financial support through elimination of non-instructional subsidies, increased fees, the pursuit of donations and the development of income generating activities to have a diversified and relatively stable funding base. An indicative target could be for public institutions to generate income covering 30 per cent of recurrent expenditure from these non-governmental sources. An added advantage of cost sharing with students is that it creates incentives for them to take their studies seriously. However, its equitable implementation requires arrangements for

freeships for academically qualified poor students and credit facilities for the needy students.

To provide incentives for efficient resource allocation and utilization, the present system of distributing public funds to institutions on the basis of negotiated budgets needs to be replaced by mechanisms that link funding to performance criteria. The government's role in higher education should also change from direct control to providing enabling policy environment for both public and private institutions and using the leverage of public funding to stimulate the institutions to meet national needs for skills and research efficiently. Obviously, the implementation of this change would require increasing management autonomy. However, along with increased autonomy, higher education institutions need to be held accountable for their academic and management performance. This requires sophisticated evaluation criteria and oversight capacity. For students to make rational choice in the context of rapidly changing technology and economic environment, they should have access to adequate information on costs and quality of courses at different institutions and on the labour market opportunities. By making such information widely available, governments can contribute to the efficiency of higher education system and quality of its output.

There is also increasing realisation that institutions of higher education should have close working relationship with productive sectors. This will help ensure the relevance of academic programmes. Financial incentives for joint industry-university co-operative research, corporate sponsored internship for students, and part-time academic appointments for professionals from the productive sectors can help strengthen the linkages and communication between higher education system and other sectors of the economy. The continuing education programmes are also an effective channel to respond to changing training programmes.

Finally, achieving equity of participation in higher education is important for economic efficiency, as well as social justice and stability. The preferential admissions policy has been widely used to broaden the social base of participation in higher education. It would not adversely affect higher education quality if overall selectivity is high, if remedial assistance is available, and concomitant efforts are made to increase the average quality of school education. In any case, it is not possible to achieve equity in higher education, without ensuring access

to quality public education at the pre-school, primary and secondary levels to the disadvantaged sections of the population.

Summary

Higher education plays a crucial role in development. However, it is in crisis in most of the LDCs due to severe fiscal constraints. There has been general decline in quality. Corresponding to the problem of declining resources per student is the increasing inefficiency — both internal and external. The internal efficiency relates to inefficient use of resources in relation to educational output. The external inefficiency is indicated by largely socially irrelevant training as well as research output, and increasing graduate unemployment. Further, the existing pattern of higher education favours the elite. So the relatively high subsidies to public university students are not only an inefficient educational investment but also regressive public spending. The experience, however, suggests that it is possible to achieve a well functioning, diversified, flexible, and a growing higher education system even as public expenditure per student declines. Since reform requirements, political and economic conditions vary considerably across countries, the relative importance of various policy options will obviously depend on specific country circumstances. However, experience suggests that the focus should be on four main directions for reforms: greater differentiation of higher education institutions, diversification of funding sources for public higher education institutions with emphasis on cost sharing, donations and income generating activities, redefinition of the role of the state in higher education with greater emphasis on institutional autonomy and accountability, and introduction of policies explicitly designed to give priority to quality and equity objectives. Each country also needs to weigh carefully the right balance of resource allocation between the education subsectors, considering the relative social rates of return at each level as well as the complementarity that exists between primary, secondary and higher education.

The government's role should be confined to providing enabling policy environment and influencing the decisions of students and institutions indirectly through incentives. Broadening the social base of participation in higher education is important for social stability and economic efficiency. But it is not possible to achieve equity in higher education without ensuring access to quality public education at the pre-school, primary and secondary levels to the disadvantaged sections of the population — women, ethnic minorities, and ruralites.

MODES OF PROBLEM-FINDING

Illustrative Case Discussions - I

D. Raja Ganesan*

We have seen earlier in these columns (Raja Ganesan 1994) that there are four modes of problem-finding namely, receiving, recognising, discovering and inventing. Receiving a problem does not involve any cognitive activity on the part of the researcher. The remaining three modes — recognising, discovering and inventing — would be appropriate for the three levels of completeness at which problems may be encountered in the field: evident, implicit and potential. *Recognising* an evident problem means just "perceiving the situation as problematic". Each of the three modes of problem-finding can be illustrated through appropriate case discussions.

The discussions cover both theoretical and practical aspects. The first case discussion, *Latha Finds Her Problem for Research* highlights how the traditional critical, "vertical" — strait and narrow — mode of thinking is inappropriate for problem-finding. This is a point widely recognised in recent theoretical developments in philosophy of science (Nickles 1980). On the practical side, there is a demonstration of the relevance and utility of the technique of free association for problem-finding: this technique was originally developed for clinical purposes in psycho-analysis (Jones 1953). It is also pointed out how free association is an instance of lateral thinking that is commended by de Bono (1971) for creative problem "solving". It may be added here that in our context problem "solving" consists in "finding" a problem amenable to solution through research.

Case Discussion-1: Recognising a Problem

Latha Finds Her Topic for Research

Latha is seeking registration for her Ph.D. degree in the faculty of education. When her prospective guide asked her what topic she was interested in working on she replied, "Any topic you would suggest, Sir". In other words, she was *prima facie* in the "blank" stage — the first of the eleven stages of

problem-finding that have been identified here earlier (*University News* 32 (37) Sept 12, 1994). Yes, she was blank only on the surface. As we will presently see, she was "seething" with a topic she was not yet aware of herself.

The guide found she was 26, had completed her M.A. in Psychology and her M.Ed. She had also done a certificate course in Family and Marital Counseling which she found at once challenging and interesting. She chose to do her Ph.D. in the faculty of education rather than in psychology because chances of getting a job as lecturer in Colleges of Education were brighter than in departments of psychology in colleges of Arts. Of course, she wants to do a Ph.D. anyway because she is enamoured of the title "doctor" she could prefix to her name on successfully completing it. She plans to get married and settle down, hopefully as a lecturer in the faculty of psychology which is still her first preference, or as a lecturer in education.

She is not sure if she likes teaching. She said, "I definitely do not like the monotony of it — particularly, correcting bundles and bundles of answer scripts".

Her father and mother were teachers in a secondary school. Her father was short-tempered. He would also leave most of the drudgery involved in his job — like correcting his pupils' composition exercises and the examination answer scripts assigned to him — conveniently to his wife that is, Latha's mother. As she was growing up Latha was witness to many unhappy scenes of conflict between her father and her mother on this score.

Latha's elder sister, who seemed to have inherited her father's short-temper, is a lecturer in a college. She married another lecturer in the same college. It was a love marriage and it estranged her from her parents, especially her father. This sister and her husband, however, are spoken of in their circles of colleagues and friends as an ideal, made-for-each other couple. This elder sister is also something like a role model for Latha.

Having gathered all these background details

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about Latha, her prospective guide told her it was better if the topic originated from her. Latha frankly replied, "Sir, as I have all along had my primary interest in psychology I did not think of anything in the field of education at all".

Though this was not a welcome reply for a guide in the field of education, the guide found Latha intelligent, articulate and earnest. She had secured a first class in her M.A. Psychology and in her M.Ed. Besides, her marks in her B.Ed. Practicals, especially in Teaching Competency, were outstanding.

So, he told her, "Forget for the moment your concern about strengthening your chances of getting a lectureship in education. Think of what you would like to do if you were assured a job as a lecturer in the faculty of psychology itself."

When he said so Latha's guide was using a strategy of lateral thinking. Lateral thinking is concerned with promoting creative approaches to problem-solving (*de Bono 1971*). Again solving a problem in this context consists in finding a suitable problem for research. This particular strategy is called "using an intermediate impossible": "an 'intermediate impossible' is an idea which one does not use for its own sake but as a stepping stone to a new and useful idea".

Though Latha knew that this was a purely hypothetical situation, she nevertheless warmed up. She said, "If that were the case, I would like to do something on marital conflict". When she indicated "marital conflict" as a focus of interest for her Latha had at one jump moved from the first, *blank* stage to the fourth stage of *focusing on a phenomenon* in our eleven stage ladder of problem-finding.

The provisional — that is, purely temporary — removal of the constraint of having to choose a topic from within the field of education immediately facilitated the welling up of a theme for research from within Latha. That is also precisely the rationale for separating the creative phase from the critical phase in problem-finding. Such segregation of the creative and the critical components is adopted as a guiding principle in our systems design for problem-finding carried out later.

In the light of her family and academic background: having been witness to frequent conflicts between her teacher parents on the one hand and having an elder sister, a lecturer by profession, happily married to a lecturer on the other; and, having

done a course in Marital Counseling which she had found interesting — her guide instantly understood that marital conflict is a phenomenon of intrinsic interest to her. He also noted that, though she had declared she disliked the monotony in the teaching profession, she had secured outstanding grades in her B.Ed., especially in the practicum component pertaining to teaching competency.

Her guide understood in a flash what Latha must have been deeply and persistently concerned about, and why. He also deemed that she would very much want to do a Ph.D. around this personal concern of hers or, perhaps, she was already groping for a way to relate it to her doctoral research. But he kept it as a surmise within himself and told her to take some time and explore ways and means of relating marital conflict to the field of education.

Latha went back home and squeezed her brains for a seminal topic. After struggling for a week she came back and reported she could not think out an idea that "seemed to click". Her guide asked her to tell him how she went about the task. She was at a loss to explain precisely what she did whereupon he suggested, "Just repeat aloud the lines on which your explorations proceeded, and the cue words you used along each".

Latha replied, "Sir, I tried to relate 'marital conflict' to each one of the standard categories and/or concepts in educational thought..."

"Like....?"

'Marital Conflict' and 'Aims of Education'...

'Marital Conflict' and 'Agencies of Education'...

"... and 'curriculum'

"'Marital Conflict' and 'Teacher-Student Roles and Relationships'...

"'.... and Evaluation".

Latha did not succeed in finding a new and suitable topic for her doctoral research because she had followed what *de Bono (1971)* calls "Vertical thinking" — the only mode of thinking to which she had been accustomed all along.

Vertical thinking derives from the Greek tradition and follows its "rock logic" (*de Bono 1991*). Vertical thinking is convergent: it presumes that there is only one strait line of thought for finding the solution to any problem, and proceeds to arrive at it through a series of deductive inferences. Its "rock

logic" requires that each step in the deductive process be obvious *before* it is taken. Thus, by its very nature, vertical thinking precludes the elements of surprise which is a *sine qua non* of any creative discovery (Bruner 1979): what is obvious before hand can never turn out to be surprising.

Another shortcoming of vertical thinking and rock logic is that it is confined to language and abstract categories. It is not mediated by perceptions of relevant aspects of the real world. If a research topic in the social sciences is to have anchorage in, and bearing on, real life experience it must encompass perception.

Of course, Latha's concern with "marital conflict" was rooted in her perceptions of the conflicts between her parents over many years! But when she began scouting for a topic "marital conflict" was cut adrift from its roots in her first hand observations, and became at once an abstract, truncated and free-floating concept. It was now devoid of its experiential content and drained of its motivational charge which derived from its personal significance for her.

As for the categories and concepts from education namely, 'aims of education', 'agencies of education', 'curriculum' and 'teacher-student roles and relationships', Latha has had no memorable experience whatsoever about them.

Her conjugation of 'marital conflict' successively with each of these educational categories was an instance of vertical thinking and rock logic. It was a mechanical process following the pre-determined steps in the logic of educational thinking. Devoid of its motivational charge, it turned out to be a "dry run".

Thus, Latha began with a worthwhile theme — marital conflict — at the back of her mind. But she did not succeed in obtaining an original topic because her efforts were severed from perception and she had followed the rock logic of vertical thinking.

Vertical thinking is certainly necessary and sufficient for one to understand the already established regions of knowledge. And, of course, one may read a "chosen" area so thoroughly and exhaustively that one reaches its frontiers and gets signals from fellow researchers on the frontline to pursue. Hobson (1990) calls this the "top down" approach — of course, in a different context. In this "top down" approach one begins the exploration from the general, abstract

and theoretical level and comes down to empirical and clinical/individual levels. This is the approach followed by many researchers as per the advice of their guides. And, of course, a researcher must master the relevant literature sooner or later.

When one reaches the frontline and begins picking up myriads of problem signals one is again confronted with the problem of exercising a choice. One must choose a topic that arouses and sustains one's motivation consistently at a high level till the successful completion of the project (Gruber 1980). For harnessing motivation a 'bottom up' approach (Hobson 1990) — starting from a concrete problem experienced or, at least, perceived personally as significant by the researcher — would be appropriate. Ultimately, the crux of the matter is to link up individual experience to a generic theoretical framework.

As her vertical thinking and rock logic *via* the 'top down' approach could not spark off a topic that was at once surprising, empirically relevant and *prima facie* worthwhile, Latha was advised to try out an alternative strategy. To begin with she was required, as per Dillon (1989), to *distinguish* between "marital conflict" as a formal *problem for the field* of education and as a *problem for her* — as she personally perceived it.

Then she was asked to explore the theme of marital conflict as it was embedded in her mind — trellised in a network of personal associations. She was advised to adopt the technique of free association for this purpose. 'Free association' consists in articulating whatever words, ideas, feelings and images occur to one as one thinks of a theme, person, place or object — *without any conscious and deliberate effort at controlling and directing the train*. This injunction against conscious direction and control distinguishes free association from logical thinking (Kris 1982).

Free association is also a form of lateral thinking. Robert de Bono's (1971) lateral thinking includes trying to link up a word chosen absolutely at random to the problem theme for achieving a breakthrough towards a solution. Free association aims at bringing to light, contingent, hidden psychological links towards the solution. Both de-emphasise strait, vertical thinking and signify loose, free-wheeling exploration. It may be recalled here that Latha had adopted vertical thinking in her earlier, unsuccessful attempt at obtaining a topic: she had conjugated

one by one the received concepts and categories of educational thought in their standardised sequence.

Being a postgraduate in psychology and having done a course in Counseling Latha had no difficulty in understanding this technique of free association and applying it to her problem situation. The train of her free association to the theme of marital conflict was as follows :

"Marital conflict...father...mother — always over worked ... because burdened with father's correction work too... (scene descriptions of) quarrels between father and mother on this score... father's short temper ...Latha's resolve: 'I will never marry a teacher' ... quarrel scene between her father and Gita (Latha's elder sister) ... on her love marriage: father shouting and Gita screaming Gita quitting their home ... Sekar (Gita's colleague-turned-husband) ... understanding, helpful and tolerant with Gita, ... happily married".

It was pointed out to Latha that she began with 'marital conflict' and ended with 'happily married' ... like a typical Indian feature film script. It was also pointed out to her that 'marital conflict' is immediately associated in her mind with father, mother, overwork to mother thanks to father, and quarrel arising therefrom. And, 'happily married' is associated with her sister and her husband who had been described by her as "understanding, helpful and tolerant".

Her guide queried her as to why she thought he was "understanding, helpful and tolerant".

Pat came the reply: "Because he helps her in setting her question papers and in her research work"! Latha was stultified immediately at her ego-centric role expectation *vis-a-vis* a happy marriage, and sought to change her stance: "They...er..." Thus the momentum of the discussion leading to culmination in a psychologically suitable topic weakened temporarily.

Her guide assured her she need not be defensive about it but highlighted her ambivalence in the matter: she did not like her father overburdening her mother with his own load of work but she was appreciative of Sekar taking on the burden of her sister's work. He also traced its genesis to the quarrels between her parents to which she had been witness since her early years.

Then the guide delved a little deeper into the

data obtained through free association: '

He asked Latha whether she was aware that she said she disliked the teaching profession though she had scored close to distinction in her B.Ed. Practicum — especially in Teaching competency which became obvious just at a glance.

Again, he asked her if she was aware of the fact that both the pairs in her free association chain namely, her parents and her sister and her husband, were teachers by profession. "Oh, no", Latha acknowledged with a surprise. The guide then referred Latha to the following write up.

Should a Teacher Marry a Teacher?

Women are taking to employment now more than ever before in history. A lot of studies have already been made about the stresses and strains a woman who takes to a career outside the home is subjected to thanks to her dual role obligations. We do not dispute here the trend of the findings: that a woman who takes to a job in addition to home making does suffer extra stresses and strains compared to a full time house wife. Our focus is now on the question whether a teacher who marries a teacher experience less stress and strain, derives greater job satisfaction and achieves a higher level of marital adjustment than a teacher who marries a spouse pursuing a different profession.

A decisive answer can be obtained only by large scale empirical survey research. As far as we know, few studies have been undertaken in this area, and there seems to be none within India, particularly about the teaching profession. We are aware that job satisfaction and marital adjustment are variables influenced by a number of endogamous and exogamous factors like the antecedent determinants of spouse and career choice, personality traits, temperamental compatibility between the spouses, attitude to one's own and one's spouse's profession, reciprocal role expectations, congruence between aptitude profiles and job demands, the content and the context of the job, socio-economic status, career commitment and aspirations, commitment to gender role functions etc, etc.

Our prima facie hypothesis is that, other things being equal, spouses who are pursuing the same profession will experience less strain and stress, both at home and on the job, gain greater job satisfaction and achieve higher levels of marital adjustment than spouses who are engaged in different occupations. The reason behind this hypothesis is that spouses in the same profession can extend an understanding and empathy to each other in grappling with job related problems, which is naturally difficult, if

not impossible, if they pursue different careers. Each may also be a source of inspiration for the other in the pursuit of excellence in their common profession. Together they may instil — consciously or unconsciously — a sense of dedication to the values of their profession in their offsprings. Thus their offsprings may be exposed to a rare pre-occupational socialisation to certain specific values of their parents' profession.

However, we cannot rule out a diametrically opposite hypothesis: that spouses following the same profession will experience the onset of what is called the "Honey Moon Effect" in organisational psychology much earlier than spouses who pursue different professions. "Honey Moon Effect" refers to the rapid disillusionment that employees and employers are found to suffer after an initial phase of high reciprocal expectations between them. Again, as both the spouses undergo increasing and prolonged socialisation to the same profession the spectrum of their values may narrow down to a single, monochromatic band. Such a domestic atmosphere is hardly conducive to the all round development of the personality of their offsprings.

Maybe, the experience differs from dimension to dimension, fluctuates from time to time, varies from couple to couple, profession to profession, institution to institution, and culture to culture. For example, some couples working in the same institution may enjoy high job satisfaction and achieve good marital adjustment thanks to the camaraderie among the colleagues and personnel policies of the institution. Again, teacher couples working in the Western culture may gain higher levels of job satisfaction and marital adjustment than such couples in Indian culture.

Whatever the ultimate answer be, we believe this question has not yet been raised with the degree of seriousness it deserves: after all, one spends most of one's lifetime with one's spouse and one's job and it is better one chooses each of them with a knowledge of their effect in conjunction. We commend this topic of universal and perennial significance for discussion and research to our readers.

Dr. D. Raja Ganesan
Experiments in Education
Vol. No. 1, Jan. 1988.

Latha instantly recognised in this write up a topic — her topic — for research. This topic, "Should a Teacher Marry a Teacher?" was of tremendous personal significance to her. It pertained, at once, to her past and her future; her career and, possibly, her marital choice. It fitted with her academic background in psychology and her greater career prospects in education.

Now, is it advisable to choose a topic that is of such strong emotional interest to the researcher? Can he or she bring to bear the necessary objectivity on it?

In the first place, all (freely chosen) inquiries in the Human and the Social Sciences, as Harold R. Isaacs (1978) has observed, are ultimately autobiographical in their origin. In their relation to the investigator some are disguised on the autobiographical dimension, some are self-consciously chosen, and the rest begin as disguised ones but eventually reveal themselves in retrospect as explorations and disclosures of the self (Raja Ganesan 1986). Thus, no freely chosen research project in the Human and the Social Sciences can escape the influence of the investigator's self. In fact Anne Roe (1961) is of the view that even in the physical and the biological sciences the "personal factor" comes into play not only in the choice of the question but in the consideration of hypotheses, specification of data, mode of data collection, levels of precision and even in the thrust of the interpretation of the data.

Secondly, "a strong emotional bond with the chosen subject and a larger vision" are deemed indispensable for sustaining the research through the long arduous journey that a significant project may turn out to be. Mere knowledge and intellectual skill — even of a high order — are considered "clearly inadequate". Motivation of this kind and strength can derive only from the basic needs and structure of the personality. Sometimes these may even be neurotic. But it need not be a cause for concern nor a reason for not undertaking the project. "The ability of a human being to find in a personal (emphasis added) problem the motivation for the search for truth is one of the major accomplishments of the species" (Roe 1961). The trouble arises only when the motivation and the commitment stemming therefrom are blind — that is totally unconscious.

In the case of Latha, she was not holding blindly to a dogmatic view on the topic-in-the-offing with any neurotic vehemence. In fact, she was ambivalent — that is, undecided — about the answer to the question, "Should a Teacher Marry a Teacher?".

The question was urgent too — both for Latha and for her socio-historical environment: as the write up indicates at the very outset, women are increasingly taking to employment. And, a significant piece of research results when there is a fortu-

(Contd. on page 17)

Teaching Methods and Their Effectiveness in Management Education

S. Mufeed Ahmad*

Training is every thing. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.

— Mark Twain

Introduction

The real strength of the country lies in the development of human mind and body. The greatest challenge for our society today is to prepare the leaders of the future and the greatest challenge in business today is to train and develop tomorrow's managers. An eminent philosopher of China, Kuang Chung Trung, said in the 7th century B.C. "if you wish to plan for a year, sow seeds; if you wish to plan for ten years, plan a tree; and if you wish to plan for a life time, develop men". This highlights the need for improving the existing manpower by imparting advanced education, training and development. Education is a general term to impart knowledge and understanding, while training is the organised procedure by which people can increase the knowledge in a particular job. Development is a broader term. It includes training and education, concerned with providing learning experiences to students/employees so that they may be ready to move to new directions.

Objectives of Management Education

The objectives of effective learning in management education are to contribute to the professionalization of management and to bring about improvements in management practices as follows :

a) to provide opportunities for young aspiring persons to acquire theoretical, conceptual ideas, problem-solving skills, interpersonal skills and to develop attitudes considered essential for becoming competent and responsible managers;

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b) to motivate the students to learn and provide satisfaction to them from the learning process; and

c) to provide feedback to the learner and reinforcement to correct deviations of performance.

Teaching Methods

The sequential learning occurs best if the appropriate materials and techniques are provided. In order to avoid boredom and increase interest, the information and methods presented should be both varied and interesting.

Listed below are a number of training and development methods which are currently in use and practised in most Indian business houses and management education in universities.

Lecture Discussion

This method presents factual information through lecturing clearly and effectively. It is still very widely used in training and in education, especially, higher education. There are several types of lectures, which differ from each other in the way they are given, but basically there are only two main types i.e. "one-way lecture" (exclusively by one-way communication, usually by talking at the group), and "two-way lecture" (by two-way communication, usually by talking at and with the group and by involving the trainees/students in learning activities). The latter provides the opportunity for clarification and expansion of the lecture through the avenue of group discussion.

Available research evidence also supports the general effectiveness of discussion techniques. Compared with the traditional lecture method, discussion elicits higher levels of reflective thinking and creative problem solving, including synthesis, application, and evaluation. There is also evidence that students often prefer to participate in discussion rather than be passive learners in a lecture (McKeachie, 1978). William Ewens (1993) has given a detailed list of features that promote useful classroom discussions (Table-A).

Table - A Emerging Classroom Discussions

Required Features	Supporting Features
Questions at different levels	Questions - Analysis, Application Synthesis, Evaluation
Encouragement and Praise for correct answers and risk-taking	Be positive and supportive. Avoid - inappropriate moralising, threatening, warning, blaming
Avoid unnecessary jargons	Explain your terminology
Adopt 10-Sec. Rule	Patience, Tolerance, Silence
Allow students to answer	Resist temptation to answer your own questions
Learn students' names	Let students know you care about them as individuals
Seat students facing one another	Circular seat - Promote interaction
Promote openness and honesty	Defensive/admit ignorance.
Promote students' self-help	Help to know weaknesses/potentiality
Encourage students' interaction	Encourage to ask questions and react to one another's ideas
Be a positive role model.	Be careful to provide an example through actions
Hand disagreements correctly	List the pros and cons of an issue on the black board; allow to participate and discuss
Summarise	Appraise periodically at the end of the programme of the class by summarising the main points and praise the classroom success.

Case Method

While all the development programmes are suitable for developing professional managers, executives and supervisors, there is possibly only one method which will be suitable to develop any individual (maybe a layman or a worker at any level), that is the case study method. "The case methods emphasizes learning both in the left and right hemispheres of the brain, particularly in learning from decision-making situations. Recent discoveries on the functioning of human brain indicate that the left part of the brain specializes in logical, sequential, and linear functions and the right part of the brain in relational and holistic functions (Rao, Sreenivas 1989). The case study method was developed by the Harvard Business School in 1908. Dean Gay and his maverick, almost anti-academic, small faculty of seven quickly agreed that business education was not the study of applied economics and that their

purpose was to give each individual student practical and professional training suitable to the particular business he plans to enter" (Christensen 1989, p. 22). This meant using a pedagogy that linked the classroom to the realities of business and engaged the student in solving complex unstructured problems of preparing plans as per the requirements.

In 1972 a research work carried out by three researchers led by Stephen J. Carroll, asked 200 training directors of large American companies to rate the relative effectiveness of different training methods. (Bhatia, S.K., 1983) The ratings given by the aforesaid sample for the selection of training methods is presented in Table-B which shows each training method's rating from best (1) to worst (9) for each training objective. The research study indicated that the training directors believed that case study was the best method for getting trainees to achieve and obtain problem-solving skills while lec-

ture was the worst method. Recent research study reveals "while a variety of pedagogical tools, such as lecture method, role play, experience sharing, field trips and project methods are used, case method holds its special place in management education (Vathsala, S. 1992). The case instructors must constantly monitor and more actively guide the discussions, relying on volunteer participation or calling on students; emphasizing situational analysis, problem diagnosis, or action planning; maintaining one facilitative style or alternating styles; working as individuals or groups and so on.

Table - B Relative Effectiveness of Alternative Training Methods

Training Method	Learning Objective			
	Knowledge Acquisition	Changing Attitude	Problem Solving	Inter-Personal
			Skills	Skills
Case Study	2	4	1	4
Conference	3	3	4	3
Lecture	9	8	9	8
Business Game	6	5	2	5
Movie Films	4	6	7	6
Programmed Instruction	1	7	6	7
Role Playing	7	2	2	2
Sensitivity Training	5	9	8	9

* 1 is High, 9 is Low

Seminar and Panel Discussion

A seminar is a type of group discussion where one trainee, or several prepare a paper on a given topic, which is then presented to the whole group for discussion and analysis. A panel discussion is held by three to six speakers, which is listened to by an audience and is followed by a general group discussion. Research findings state that both the methods are preferred for situations where there are no predetermined solutions. Under these, participants can get greater benefits if the conferees are knowledgeable concerning the subject being discussed.

Role Playing

Role playing is variously known in professional as well as popular parlance, as "Role reversal", "Socio-drama" and "Psycho-drama". It is a simulation which involves and focuses on interaction be-

tween the players without a structure of rules or competition. This training technique was devised by Dr. J.L. Moreno, a Viennese psychiatrist and reminds the reader of the children's game, "Let's play house; you be the momma and I will be the poppa" (Herman and Zeldey Roodman 1973).

This technique is made possible when selected group members act out the events that highlight the case or incident thus, enabling the rest of the group members to observe, analyze and appraise the performance of players. It generally practices and also deals with attitudes, feelings and emotions. Table-B supported the view that majority of training directors believed that role playing was an important method for getting trainees to change their attitudes and also helped in problem solving approach.

Management Business Games (MBG)

A game is a competition, or exercise, played by adversaries, with the objective of winning. The MBG developed from war games after 1945 and provided an opportunity of playing for high stakes and making important decisions for comparatively little cost in time and money. Games vary in length from simple, decision making exercise which last only a few minutes to elaborate simulation taking several days for a single round of decision making (Bob Wilson 1987).

The main purpose of business games is to develop and strengthen the decision making ability of the participants at classroom level as well as at organisational level. These are useful in selecting faculty position applicants, problem solving, decision making, knowledge acquisition and interpersonal skills.

The Final Word

Education, training and development is the most important function by which human resources acquire knowledge and problem solving approach. It leads to all round development of participants/employees and also to develop and create competence, excellence, effectiveness, pride and satisfaction. In fact, no one is beyond training. The choice is not between whether or not to train and develop individuals, but between the alternatives available to them. In fact, selection of training methods depends upon different factors such as, nature of problem areas, level of participation, availability of competent trainees, and financial resources. However, the combination of few learning methods, if properly done and utilised, can serve and provide effective learning and feedback system.

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3. The candidates selected will be appointed on probation for two years in the first instance.
4. The selected candidates can be transferred anywhere in India.
5. Age relaxation of 5 years in favour of SCs/STs will be as per Government of India rules. In the case of physically handicapped persons belonging to Scheduled Castes and Scheduled Tribes, the upper age-limit will be relaxed upto ten years over and above the relaxation of five years as admissible to them as Scheduled Castes/Scheduled Tribes.
6. SC/ST/OBC certificate on prescribed form shall be attached with application, otherwise it would be summarily rejected.
7. Those employed in Central and State Government/Central and State Autonomous Organisations should apply through proper channel.
8. Incomplete/late application and applications not in prescribed form and without required documents will be summarily rejected without assigning any reason.
9. SC/ST candidates will be paid T.A. as per eligibility by the shortest route as per Government of India rules on production of rail/bus tickets or photocopy thereof.
10. Due to non-availability of accommodation in the campus, outstation candidates on selection will have to make their own arrangement for accommodation.
11. The crucial date for determining the age limit is 30.05.1996.
12. No interim correspondence will be entertained and canvassing in any form is a disqualification.
13. Separate application with documents should be submitted if the candidate wants to apply for more than one post.

DIRECTOR

A Peep into the Poetry of Dr. R.K. Singh

R.S. Tiwary*

Of the Indian poets in English, Dr. R.K. Singh has appealed to me most. He is chiefly a poet of love and sex. His Muse is tantalising : half-concealing, half-revealing. He is a past master in the art of concealing art. He has evolved a style of his own deliberately, but what redounds his creative credit is that this deliberateness has been naturalised. He talks of 'liberating' language as other poets, too, declare from time to time. 'Liberation' of the language means, for all practical purposes, manipulating the language to a special use, as desired by the poet. Dr. Singh is an adept in the art of manipulating his medium. His sex-poems play, as it were 'hide and seek' with the readers : They might seek to or do discover the truth or they might fail. The dark folds of clouds conceal the lightening whose occasional flashes remind us of its constant presence beneath the cloudy camouflage. Likewise, Singh's Muse glories in revealing and concealing the sex-content which, in the ultimate analysis, captures our minds beyond indelibility.

Singh's poetry is largely subjective. He cannot detach 'himself' from his portrayals (which is inevitable in poems of love and sex) even when his perception relates to something beyond his own psychic periphery. The style naturalised by him sometimes invests his poems with a certain veneer of ambiguity which, perhaps, he holds dear to his heart. Let us examine some of his poems.

II

First about his conception of poetry. Poetry for Dr. Singh is a means of discovering the man in him : *I make myself man/each time I create/..... to save the man in me/through poetry of self (Flight of Phoenix, Poem 1).* Let us frankly state that this 'self' is the Sexual Self. Poetry to him is 'madness', *a unique fascination/liberating language/recreates, resymbolises/disfiguring the known/secured norms/inverting the safe/existence. (Ibid., No. 2)* His poetry grows out of the 'imprints' accumulated in his mind; and these 'imprints' are his experiences of love.

Woman is the flesh/and spirit of poetry/eternal love thirst/growing younger as/one grows older day by day/perfecting the body. (Ibid., No. 47). Here is a triangular equation : Woman, poetry and eternal love-thirst.

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Accordingly, Singh's concept of poetry is inextricably bound up with Woman who should symbolise undying thirst for love.

As to his diction, Dr. Singh exhibits, obliquely, his cultivation of a style to make his presence felt among the community of poets. Look at the following stanza :

*I prune my thoughts
to write well
to be simply understood
I don't want
to outwit my readers
I am no celebrity
but they don't want me
to grow like a tree
spreading branches
they appoint a gardener
to prune my limits :
my shades are uncomfortable....*

(My Silence, no 76.)

The poet here confesses to yielding to comments of the critics inasmuch as he prunes his thoughts 'to write well', having no desire to outwit his readers as he is no 'celebrity'. This utterance, however, is pregnant with a vein of sarcasm. It is only 'celebrities' who can afford to be incomprehensible to readers, not an emergent poetic genius. The 'gardener' is the Critic who — Singh speaks out of personal experience — endeavours to curb his creative genius by his carping criticism.

The present writer, rather desirous of witnessing Dr. Singh's poetic 'shades' spreading far and wide, nevertheless feels that the poet's solicitude to 'to be simply understood' is belied in his poems. As though in an unconscious sharp reaction to critics, Dr. Singh's style has become challenging to the generality of readers who find it hard to cooperate with him in following his images because of his special diction. He is deeply reflective and that contributes to his poems becoming, individually, easily incapable of being understood.

Furthermore, he raises a fundamental question : Is pruning the thoughts necessary 'to write well' ? As Abercrombie states, the poet has to undergo mentally an exercise of 'Selection' and 'Suppression'. That involves 'pruning' in a certain measure. But, by suppressing or 'exorcising', as it were, relevant

details, the poet will write well so as to be easily understood — this proposition cannot be accepted. Long poems exist in English, or in any other language, for that matter, and they are easily understood. The *Cloud Messenger (Meghadootam)* of Kalidasa, Milton's *L'Allegro* and *Il Penseroso*, Wordsworth's *Immortality Ode*, etc are evidently long poems, and poetry will have to be defined afresh, should these be banished from the 'realms of gold'. If poetry is at all to be a socialised manifestation of a poet's perceptions or experiences, the extra measure of subjectivity has to be avoided. The same poem further states : *A poem/elusive like a butterfly/is the dynamics/of a culture....* Here the poet In Dr. Singh makes himself manifestly candid : A poem should be 'elusive'. I make bold to submit that Singh's poems, in general, are 'elusive'. And that creates an ambiguity, unintelligibility to the common run of readers. I presume that this elusiveness is directly attributable to the poet's 'pruning' of even the necessary parts of his experiences and that defies his intention to be easily understood. The following lines : *is the dynamics/of a culture/a process of exchange/a cultural artifact/fascinating.....* embody a truth which cannot be controverted. No objection can be raised to a poem being 'a cultural artifact'. If the poet has a sense of 'Tradition' which was clearly emphasised by T.S. Eliot, his poems cannot but be cultural artifacts. But, identification of culture wholly with 'self-awareness', as Dr. Singh thinks or holds, cannot be accepted. After all, culture is not an individual achievement, but a social, communal or racial accomplishment. Exploring the 'multiplicity of modern man', which is inspiring the poet here, will, of necessity, confine him within the psychological ambit which is 'self-awareness'. Accordingly, the premise that a poem should be 'the dynamics of a culture' becomes falsified.

Poem No. 78, beginning 'Exploring its own limits', is an important utterance as regards poetry. That the poet in Dr. Singh is always conscious of 'form' which involves diction, style etc, creates a difficulty for himself albeit he is not intrinsically conscious of it. He is anxious to manipulate relationship between 'consciousness and self-consciousness'; that is, he is endeavouring to explore the relationship between his consciousness of external realities and his consciousness of his own self. That shows that he cannot step out of the bournes of his psychic complexion and that will, naturally and necessarily, constrict his awareness of the broader urges and drives that have given rise to a variety of cultures among mankind. His allusion to 'flickering shadows' in a film 'turn traditional metaphors into contemporary realities' again contributes, despite his solicitude for maintaining a liaison between life

and art, to his losing sight of the broader and deeper dimensions of cultures. He aims at 'manifesting common humanity' through his poems which is praiseworthy, but this common humanity is again emblematic of the internal urges and impulses at whose level alone he wants to explore the unity of man. The external paraphernalias of culture, by which alone a culture is identified, have been overlooked. Wordsworth sang of the joys and sorrows 'in the widest commonalty spread'. By that way alone the poet can identify himself with humanity at large. Further, what is more intriguing, Dr. Singh seems to set the whole store by 'form', that is, style, diction etcetera. Excessive obsession with 'form' is fraught with its own dangers, I have no desire to dilate any further upon this aspect of his concept of poetry. 'Pruning thoughts' so as to invest a poem with an amount of 'elusiveness', which impairs communication, seems a proposition hard to swallow.

The above discussion naturally induces us to explore the beauties of Dr. Singh's muse within the orbit of love and sex which constitute the major portion of his creative corpus. And, let us confess unreservedly that he stands unrivalled in his chosen area of creativity. He is frank, uninhibited in his portrayals in this realm.

Remember always that love is never divorced from sex or sensuality in Singh's poems. In this respect, he is a downright realist rather than a romanticist. Even where romance was expected — because Love in realistic colours also is romantic in a certain measure — his cast of mind immediately binds him down to sexual realities. He, no doubt, strikes, at times, a note of philosophical fragrance, as in the following lines —

*Love is my prison
and freedom both
in her presence my wish her wish
to be everything
her Shiva and shakti a dual-single
me and she, one.*

(*Flight of Phoenix*, No. 6)

It is gratifying to note that his unpronounced allusion to *Ardhanarishwara* concept of Shaiva Philosophy places human sexual love upon a higher level. Equation between 'prison' and 'freedom' is a delightful dimension of sensual love. There can be no better attribute paid to Love than in Poem No. 7 of the book under reference : *Love lends to beauty/and vision with perfection*. In common experience, Beauty leads to Love; here the position is altered : It is love which creates beauty in the beloved. It is an ideal state of conjugal love which should mature into

'perfume of fellowship/in valley of peace.'

Coming to the physical level, too, Dr. Singh tries to avoid giving out odours of gross sexuality :

*When I inhale in
your mouth and exhale stroking hairs or caressing
I ride you into joy and
make you hail the morning like earth. (No. 11)*

Here the bed-union of the couple, tied to the inevitable strings of physical caressings, has not stooped down to grossness. The poet, however, gradually comes down to the level of practical aspects of sexual love. Sample the following stanza :

*Rocked or burning within
poor performer
turns the hell inside out
can't dance on a taut rope
with fragile legs
enjoy flames of passion
love is a high explosive not charged by
-induced sexuality. (No. 12)*

'Rocked or burning within', 'the hell inside out', 'flames of passion' are all copulational realities. Describing love as a 'high explosive' is aimed at denoting the strength of sexual love which cannot but exhibit its power of rapid spontaneous 'exploding' without any external aid or support. And then, suggesting the immediate explosion of love in the close association with the beloved, the poet has come down to practically realistic levels. At times, his experience of sexual union is 'sui generis' as is illustrated by the following stanza :

*Winter is caught in
waves of narrow discussions
Under the blanket
fingers move by nipples erect without sensing con-
summation. (No. 16)*

The meaning is patently clear and needs no elaboration. The poet then rejoices in 'Love without clothes' :

*Can't you drop your saree
and all that conspires to conceal
your nudity, my love
forsake your modesty and see the naked passion in
my eyes seeking freedom to unite and transform
the night through body's dark alleys
don't you love your freedom?*

The passage presents a tell-tale picture of naked passion which desires 'freedom' from the constraints of 'modesty'. Similarly, Poem No. 48 (*Flight Of Phoenix*) depicts the image of 'An undressed woman' whom he desires innerly to 'lay bare/the vulnera-

ble/in myriad colours.' The poet's forthright articulation of his passion, his desire to smash to smithereens the traditional familial constraints in matters of conjugal relationship reflects his boldness to speak out the truth, rather 'naked truth'. It is, however, a little surprising that he, adopting a sort of philosophical mood, considers sexual passions as instrumental in a awakening 'growing consciousness' in the copulating pair as though consciousness were the product only of sexual relationships. 'Thighs', 'breasts', 'vulva' — all these ever haunt his psyche when oriented to Love.

Nonetheless, the poet evinces some times a sense of beauty of the feminine body, exquisitely aesthetic : 'I see her tending the blouse/half hidden by roses'; 'In the lake of your eyes/I saw him drowning' — etcetera. His frankness leads him to paint images of sexual commerce without any inhibition : "I smell my boneless/semen under the pillow/weaving legends in half dream along her/hips as I curl like rainbow...." (No. 57) And, "man's love and hatred/concentrate on the crevice/though he watches face." (No. 54) He holds the thesis that 'living' is synonymous with 'loving' : "I too want to live and be loved...." (No. 65). That is why he pronounces his conviction : "A woman should complement/not complicate wanting love/and freedom both with sweetness". (No. 46) Sometimes 'taste' outraged in his frankness.

As said earlier, it is a little surprising that the poet in Dr. Singh seems to be always 'serious' and 'business-like' in matters of love and sex as though he were determined to preclude any shades of romantic 'culture' from entering into his otherwise delightful vignettes. Allusion to 'purusha prakriti' and 'Yin and Yang' are harnessed into service with the studied intent to elevate his love poetry to a level transcending the common level of man-woman relationship although he confesses to 'Bones of levity', 'criss-crossing' (No. 20). There should have been more passages like she laughs when I say/love and beauty is nothing/but sobre and sheath. (No. 54)

Nevertheless, pictures enshrining the co-existence of sex, humour and nostalgic romantic tinge are not altogether lacking. Take the following passage :

*As I curled along her
we became a small rainbow playing earth and sky.*

*In half-dream weaving
legends of love in moments unmemoried years.*

.(Memories Unmemoried; A Small Rainbow)

The poet's wish that the beloved once kiss him
and melt in him belongs with the romantic moods :
Won't you/once kiss and melt in me?

(*Ibid*, 'I Leave My Memory').

III

Notwithstanding Dr. Singh's muse glorying chiefly in love and sex, awareness of other aspects of life is also discernible. He casts a telling fling suggestively at hypocrisy: — *Who is gentleman here/ everyone speaks more/than one tongue in self-interest.* (*Flight of Phoenix*, No. 69). The selfish ways of the world are suggestively portrayed in the following passage :

*The moon rises with
million stars in sky
but non worship
the dying sun says
how alone one is
sinking in glory*

(*Ibid.*, No. 75)

The futility of religious rituals, the apathy of the 'myrmidons of law', dogs fouling the side-walks with impunity, abuse of liberty, bureaucrats joining hands with politicians, icy winds howling at the Ganges, "the nameless children of footpaths", the ferryman rowing across the river braving chilly weather, — these and a few other facts of life have found expression in some of the poems, chiefly in the collection, *My Silence*. Notes of despair, death, veiled anger etc are also audible. Sample the following passages ":

*.....I hear/death echoing in tunnels/dark or grey
hardened, cruel, a green stone/nourishing the dirge/we
crown death.*

(*Ibid.* No 27)

*Where is light and grace/in ravished image of
struggle/midst mute mass and doubts?*

(*FLight*, No. 70)

The poet becomes sarcastic at some aspects of modern dispensation as in the following lines :

*Because he was intelligent
and his talent wrecked his life
he wants his son to grow
ignorant and stupid
that he enjoys a quiet life
by becoming a cabinet Minister.*

(*My Silence*, No. 37)

*An ideal minister
is a miracle of cunning*

*like the jackal in fables
who ate the heart.....*

(*Music Must Sound*, No. 77)

*Mr Dange lauds
action against smugglers
and accepts a purse of
4.5 lakhs from working people....*

(*Ibid.*, No 78)

IV

Let us now touch the artist in Dr. Singh's poet. At the very outset, I would like to observe that he believes in the dictum, 'Brevity is the soul of the wit'. Apart from pruning his thoughts, as noticed earlier, he compresses his language, achieving economy of expression — let me frankly state — at the cost of oftener than not, perspicuity. A good majority of his poems are distinguished by this facet of his artistic personality. Examples galore can be cited to support our stance. Only a couple are quoted here :

*Bones of levity criss-cross
at the bottom of silence there is no shape in the mind.*

(*Flight*, No. 21)

*The night died
for nobody trimmed
the wick of lamp.
A monkey turned the coat
to let off snakes
hidden in velvet lining.¹*

(*Music Must Sound*, No. 31)

An outstanding characteristic of his style is his proclivity cultivated, now becoming naturalised, of 'Suggesting' rather than 'Describing'. From the point of view of art, this tendency is admirable as it leads to verbal economy and verbal 'discipline', too. But, let us not forget that the chief business of a poet is 'To Describe', *Varnana* in the words of the celebrated Sanskrit Law-giver, Bhattatauta, which is coupled with the poet's faculty 'To See', that is, *Darshana*. Thus, the poet achieves a look into those aspects of life which are commonly hidden to the common eyes, and then he 'Describes' — *Darshana* and *Varnana* being the two essential capabilities of a poet. Now it is within the orbit of *Varnana* or Description that 'Suggestivity' or *Dhvani* of the Sanskrit poetics, falls of is to be accommodated. Would that Dr. Singh's muse appreciate this vital point. The poet has seen a vision of reality and unless he communicates it with clarity and perspicuity, his vision forfeits its value. Further, Dr. Singh's total disregard of punctuation cannot be countenanced.

Now it will be highly unfair on my part if I close my article on this unflattering note. Dr. Singh possesses a command over his medium. Language is exceedingly malleable in his hands. Like Keats, he takes delight in coining phrases, such as, 'fractured faith', 'drugged sleep', 'rituals of flesh', 'dark combats', 'that icy sun' etc. Although there are few purple patches in his poetry, yet the similes and metaphors employed by him are always delightful, carrying a pregnancy of meanings. Sample the following passages :

The rising smoke/is mysterious/like woman:/I see/the shade/of a snake.

(My Silence, No. 23)

*Naked/without ring/a widow.
Darkness is whore*

(Music Must Sound, 23-24)

My messianic dream welters on the bleeding breast of Delhi

(Ibid, No. 59)

Memory fades/like her body/at night.

(Flight, No. 23)

The leaves have turned moth/we cross-leg with crabbed wishes/erase one more year.

(No. 76)

Eliot's echoes are, at places, audible such as, 'I can't create with bald head' and 'If there is no water. 'White laughter' reminds us of the famous Sanskrit poet Kalidasa.

(Ibid., No 68)

An image in Shakespeare's *Venus And Adonis* is reflected in the following lines :

A flying horse parched/on the island of her flesh....

Taken all in all, Dr. Singh's poetry accords him a stature of eminence in the community of Indian poets writing in English today.

Note

1. This image reminiscent of a recent critical controversy sparked off by a TV serial "Snakes in velvet lining" is a conception charged with a fund of meaning. It is only the author, however, who can fully unfold its import.

Modes of Problem-Finding

(Contd. from page 8)

itous mix between the developmental needs of an investigator personally, and a corresponding problem in his/her socio-historical environment (Campbell et. al. 1982).

The scope of Latha's recognition of the topic was not confined to an instant, narrow and ordinary ego-centric experience. She could easily recognise in the text of the write up a central, leading and axial question as well as a set of interlocking questions around it. Thanks to her academic background she could also recognise the contours of her problem—space and the social psychology of marital adjustment and of job satisfaction among members of the teaching profession.

[Extracts from the author's forthcoming book on Problem-Finding]

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SPREADSHEET

BRAIN DRAIN DATA (2)

Indian Students Going Abroad — Annual Outflow State-Wise, Sex-Wise & Subject-Wise - 1992-93

S.No.	State/U.Ts.	Arts		Science		Education		Engineering		Arch. & Designing		Tech. & Industry		Medicine/Pharmacy		Den. & Vet Sci.		Agr. & Forestry	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Andhra Pradesh	11	7	451	52	...	...	840	76	5	5	30	3	48	11	...	...	28	3
2	Arunachal Pradesh	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Assam	...	1	2	...	...	...	4	1	...	...	...	...	4	1	...	...	...	...
4	Bihar	...	...	...	...	...	...	15	1	1	...	1	...	13	2	...	...	...	...
5	Goa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Gujarat	1	2	20	1	...	...	77	4	1	1	4	2	20	2	...	...	...	1
7	Haryana	2	...	4	1	...	...	9	...	...	...	1	...	6	3	...	...	...	...
8	Himachal Pradesh	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
9	Jammu & Kashmir	1	...	...	...	...	...	4	...	1	...	1	...	1	...	...	...	...	...
10	Karnataka	5	12	147	38	...	...	366	51	10	4	10	4	31	1	1	...	6	2
11	Kerala	...	1	23	5	...	...	40	5	2	...	1	...	2	1	...	...	...	...
12	Madhya Pradesh	...	...	5	1	...	...	5	...	...	...	...	...	3	...	...	...	...	...
13	Maharashtra	22	20	222	54	...	...	270	23	14	9	24	3	67	32	...	...	5	1
14	Manipur	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	Meghalaya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	Mizoram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	Nagaland	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	Orissa	...	1	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
19	Punjab	3	1	4	3	...	...	15	2	...	2	...	...	10	9	...	...	...	...
20	Rajasthan	1	4	8	...	...	...	6	...	...	1	...	...	7	...	...	...	...	...
21	Sikkim	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
22	Tamil Nadu	15	13	172	33	...	...	310	27	8	1	12	1	56	18	...	...	10	1
23	Tripura	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	Uttar Pradesh	2	...	14	5	...	...	42	1	1	...	5	...	9	3	...	...	1	...
25	West Bengal	20	11	54	23	...	...	74	4	1	1	5	2	19	5	...	...	1	1
26	A. & N. Island	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	Chandigarh	...	...	2	...	...	...	6	...	2	...	...	1	2	...	...	...	...	...
28	Dadra & Nagar Haveli	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	Daman & Diu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	Delhi	17	18	79	22	...	...	105	15	7	3	4	1	43	18	...	...	6	...
31	Lakshadweep	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
32	Pondicherry	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total		100	91	1209	238	1	...	2190	190	53	27	98	17	342	106	1	...	57	9

Source: Department of Education, Ministry of Human Resource Development, Govt. of India, 1994.

PG Diploma in Human Rights

The University of Bombay proposes to introduce a one-year post-graduate diploma course in Human Rights from the next academic year. This is the first time that such a course is being instituted in any university in the country. According to Dr. (Mrs.) Nawaz Mody, Professor of Civics and Politics in the university, the objectives of the programme are : to train citizens, create awareness among them about human rights and promote a more effective exercise of the rights of citizenship, to train the police, the media and citizens to develop their culture and identity and make them aware of the benefits of modernity, education and equality of opportunity, etc.

In addition, the course will aim at developing the ideology, attitudes and institutions to protect and promote the values of human rights 'with the help of ideas developed from several human rights organisations in India and abroad'. It will also try to create consciousness among the bureaucracy, police, para military and military on the nature and importance of human rights.

Candidates offering the course have to sit for four papers including a dissertation based on field work. The papers cover : evolution, philosophy and theory of human rights; human rights in the Indian context, human rights in the global context. Instead of the usual lecture method, the case study method is to be adopted.

The Academic Links Project approved by the Management

Council for the English Department of the university has also been cleared by the Ministry of External Affairs, New Delhi. Essentially, the department will have linkage with the universities in the U.K. (Queen Mary and Westfield College, University of London and the British Open University, Milton Keynes). The project envisages an exchange of research scholars, faculty and also joint research projects and publications, according to Dr. (Ms) N. Bharucha, Professor of English and the Co-ordinator for the project. The British Council in India is expected to play a role in making the project work smoothly. A writer-in-residence programme is also on the anvil.

Banking Development in 2000 AD

The Department of Commerce, National College, Bharathidasan University, Tiruchirappalli, recently organised a National Seminar on "Banking Development in 2000 A.D." Inaugurating the seminar Dr. V. Muthukkaruppan, Vice-Chancellor, Bharathidasan University, said that the best interaction between the Industry could be for banks to suggest upgradation of the curriculum and syllabi of universities in their vicinity so that the universities could provide better qualified and trained manpower tailored to their needs of globalisation and liberalisation philosophy.

Mr. G.V. RAO, Chairman, Lakshmi Vilas Bank Ltd., Karur,

said that it would be difficult to visualise how the industry would be around 2000 A.D. because the entire operations of all banks were linked to political decisions. The interest rates had been fluctuating, resulting in the bankers virtually doing a financial "tight-rope walking". Bankers, he said, had shown remarkable resilience in adverse situations in the past and rallied themselves to the forefront with hope and confidence.

He pointed out that private sector banks with Rs. 100 crore capital could only service top industrialists when "social justice and banking" was the *mantra* of the government. He suggested that if the common man had to get services, private banks, each with a capital of Rs. 25 crores could be licensed within the states, initially for five years, enlarged after five years with another Rs. 25 crore capital and at the end of the 10th year yet another Rs. 25 crores added to enlarge its service operations beyond the state.

Emphasising that inflation-interest rates have a closer link, he regretted that when the inflation rate had recorded single digit, the interest rates had gone up. With scams surfacing one after the other, the Reserve Bank of India (RBI) had tightened its control over banks, with the result, instead of liberalisation, today one witnessed more controls on the banking industry.

Mr. V. Narayanan, Chairman, City Union Bank Ltd., Kumbakonam, in his keynote address, said that banks should improve their productivity, profitability and financial perfor-

mance. They should be globally competitive, more viable and efficient and there should be an assured improvement in the standard of customer service with the use of modern technology.

Claiming that in the Indian context, it would be advisable to concentrate on the core business of resource mobilisation and lending, Mr. V. Narayanan said that bankers should be in an advantageous position to attract depositors on their financial strength and stability with their strong customer base and through their wide network of branches, bankers should focus on the fundamentals of their business.

Mr. Ganesan, General Manager, Indian Overseas Bank, Madras, said nationalisation of banks had not fulfilled the objectives. However, after 1991 significant changes had taken place in the industry.

With demanding customers, the expansion of consumer credit would be very high in 2000 A.D. Unless banks ensured "Quality and viability", banks would find it difficult to sustain.

Mr. H. Ramakrishnan, Joint Director (News), Doordarshan, Madras, appealed to bankers not to ignore the most important issue of "the humans" for whom all the transformation and technological upgradations were envisaged.

There were four Technical Sessions at the Seminar and the topics discussed included (i) Assets and Liabilities Management for Bankers in the Current Environment and Impact of Merchant Banking Services on Corporate Capital Growth; (ii) Credit Management and Future Challenges;

(iii) Emerging Trends in Mutual Funds; and (iv) Banking Services Tomorrow.

The Seminar was attended by more than 250 delegates from different parts of the country.

Varsity-Industry Linkages

Greater freedom to universities "to try innovative steps" regarding interaction with industry would provide a fillip to developing university-industry linkages, said Mr. T.K. Balaji, industrialist. He was inaugurating the Anna University - TVS Centre for Quality Management at the University campus in Madras recently. He said university authorities were often constrained by the necessity to seek Government permission for small decisions with regard to industry sponsorship. This, he said, could deprive opportunities for furthering the linkage.

The spread of interaction between the two sections would be to mutual benefit and ultimately to the overall good of society, as was evident from the successful outcome of the on-going co-ordinated efforts between Anna University and the TVS group, Mr. Balaji observed.

The Anna University example could be extended to other universities and greater flexibility be provided in the rules of universities. "There is no altruism here", he said on the industry's perception behind investing in universities. However, if the outcome of any interaction with academic institutions were of mutual benefit, "money will never be a limitation", he said.

Mr. Balaji said contrary to common perception, national cul-

ture was not a major determinant for adherence to high quality. This was evident from the Japanese record in quality.

Dr. M. Anandakrishnan, Vice-Chancellor, said the fiscal policies after reforms had served as a boost to academy-industry tie-ups. Such collaborations could be furthered if appropriate marketing strategies were adopted by the academia. Recognising that academics lacked the time and the resources to either market their findings or to know the requirements of industry, the University had engaged specialists in marketing to carry out the task, he said.

Science Programmes Through Distance Education

A one-day workshop on "Evaluation of Science Programmes and Cost Analysis of Science Programmes" was organised at Dr. B.R. Ambedkar Open University (BRAOU), Hyderabad. The sub-themes of the workshop were (1) Costing and Norms for the Conduct of Science Practicals; and (2) Ensuring Quality and Relevance of Science Programmes. Seven topics related to different aspects of "Science Programmes and Cost Analysis" were identified for discussion. These included: Conduct of Practicals; Course Material, Laboratory Manuals/Records; Multi-Media Support; Administrative and Finance Measures; Future Science Programmes; Conduct of Examinations, Theory and Practicals; and Monitoring and Evaluation of Science Programmes.

Inaugurating the workshop, Mr. S. Anwar, Incharge Vice-Chancellor, BRAOU, said that in

he changing concept of education, Open University played a relevant role and it could make an impression though it did not have contact with students directly.

Prof. K. Vishwanadha Reddy, Director (Academic), who presided, suggested the launching of 'mini labs' in the University campus to impart training to local students and for pursue of research work by faculty members.

Prof. V. Venkaiah, Director, Student Services, said since Open University was dependent on other conventional colleges, it faced certain problems. He stressed the importance of the use of audio-video instruction.

Prof. M. Satyanarayana Rao, resource person, in the first session on 'Cost Analysis of Science Practicals', discussed the different problems of conducting practicals viz., Problems at the host institutions; Lack of skilled staff; Uniformity of batch strength; and Remuneration to staff and expenditure on consumables.

Another resource person, Prof. K. Kuppuswamy Rao, said that home experiments should be introduced. Laboratories should be established in each science subject to reduce the cost of science practicals effectively, he added.

Dr. G. Srinivasacharyulu, also a resource person, said that the study of cost analysis should be a continuous process. Norms should be taken on the basis of the "student as a unit" not the batch. The number of centres for practicals should be increased.

A Science Subject Committee, with representatives from Facul-

ty of Science, Student Services Branch and Department of Accounts, should be constituted to understand the gap between income and expenditure, to monitor and coordinate practicals, and to study the norms of Open Universities/Institutes of Distance Education.

In the Second Session Dr. G. Srinivasacharyulu presented the findings and suggestions of the report of the study on "Evaluation of Science Programmes".

After detailed discussions the following recommendations/observations emerged :

1. The Workshop provided an opportunity for sharing the experience of the Faculty of Science and Academic Administrators.
2. To ensure the quality of science programmes, on an experimental basis, the strategy of including the Faculty to monitor the science programmes should be tried out.
3. BRAOU should create its own 'minimum' physical infrastructure facilities at Zonal Centres.
4. Assignments should be given an important place in science programmes through distance education.
5. Training the science counselors, to play their role in contact-cum-counselling classes and science practicals, should be considered as an essential requirement.
6. Some preparatory course was suggested for those students, preferably for non-formal students, to bring them to the required "minimum" level of knowledge and skills.
7. The university, the participants felt, to realise the objective of equal opportunity and demo-

cratising science education, should offer relevant science programmes and take up the stupendous task of bringing science education to the doorsteps of the people even in the remote rural and backward areas.

IIT-Bombay Starts B.Tech-M.Tech Package

The Indian Institute of Technology (IIT), Bombay, proposes to offer a dual-degree package of a five year course of B.Tech-M.Tech, from this academic year.

According to IIT Director, Prof Suhas Sukhatme, the students appearing for the junior entrance examination (JEE) this month have a choice to opt for this course and it was one of the ways of expanding enrolment of students in the campus.

The number of seats available this year would be 30 and the course would be an integrated one with facility for thesis work in the last 13 months. The students would be entitled to a teaching assistance of upto Rs 3000 for the last 18 months.

Prof Sukhatme said the course had been evolved after an experiment for the last ten years with a five year M.Tech course, a "cooperative integrated programme", a joint venture of the IIT and the industry.

He said the Institute was offering MSc programmes in applied statistics and informatics for the first time from this year to cater to the students who aspire to take up professions that demand skills and techniques in statistics and computer science. Since last year, a master of management programme was introduced in the campus for the engineers only and "is first of its kind

in technology management", said the academic dean Prof Ramachandra Rao.

Population and Development

The Population Education Resource Centre (PERC), University of Delhi, recently organised a discussion on the recommendations of International Conference on Population and Development. Prof. K.R. Sharma, Head of Department and Dean, Faculty of Social Sciences, in his opening remarks, said that population education needed to be integrated at every level. Population component must be linked with development aspects.

Dr. O.P. Malik, Consultant, UGC, said that Cairo conference highlighted reproductive health, integration of population and development, adolescent sexuality and empowerment of women. He revealed that on the basis of the success of helpline counselling services of Delhi University, S.N.D.T. University and NEHU also plan to start telephonic counselling services. He said that PERC now could start personal counselling and referral services on the basis of the experiences gained during six months counselling services under UGC-UNFPA project on population education. He appreciated the efforts made by PERC to strengthen programmes for the youth.

Dr. S.P. Malik, Deputy Commissioner, Ministry of Health and Family Welfare, said that NCERT and Directorate of Adult Education had also population education projects supported by UNFPA. He said that PERC must initiate innovative activities like counselling services, prog-

rammes in undergraduate and postgraduate hostels and innovative pilot studies to strengthen the base of population education resource centre.

Dr. (Smt.) Karnti of the NCERT, said that NCERT, had taken several steps to integrate population education in school curriculum. She stressed the need to link population activities at NCERT level and University level.

Mr. Rajesh, Project Officer, PERC, said that the Centre would now consolidate helpline counselling services on AIDS, sexuality, Drug-abuse and community based activities.

After detailed deliberations, the following recommendations emerged:

(1) The PERC should start personal counselling and community based counselling to further strengthen telephonic counselling;

(2) The PERC should organise meetings with the heads of the departments, various Deans of Faculties first in University of Delhi followed by service area universities and colleges;

(3) The PERC should prepare a booklet having sample questions and answers on helpline counselling services. The answers should include standard answers prepared by the experts and professionals;

(4) The PERC should further discuss population education components as recommended by International Council on Population and Development; and

(5) The PERC should set up a network in population education

comprising Social Work, Education Faculty, various development centres, NSS unit and Institute of Economic Growth.

Over 30 participants, comprised of the students of post M.A. Diploma in Adult, Continuing Education, representatives of population education clubs and research scholars of the University participated.

Refresher Course in Environment

The Academic Staff College of Himachal Pradesh University recently conducted a refresher course in environment which was attended by more than forty teachers from Himachal Pradesh, Punjab, Haryana and Maharashtra. Inaugurating the course, Prof. Lokesh Koul, Dean of Studies, H.P. University, traced the philosophical roots of naturalism, contrasting it with contemporary viewpoints. "The task before us now is", said Prof. Koul, "to deliver a pollution free environment to our children. The way is our journey from physical self towards spiritual self going through intermediate stages of social and psychological self".

Prof. Yoginder Verma, Director of Academic Staff College, in his welcome address said, "The fundamental thing which we must keep in mind was that in nature there is no waste, it is only the highly civilized *Homo sapiens* who are creating waste for which he himself seems worried today".

"The environment conservation and management require co-operation of each and every individual and it is a meeting point for the experts as diverse as a social worker in a village convincing women to adopt smokeless

chullah to a space scientist mapping the earth's forest cover with a satellite camera. To create awareness about environmental issues among the younger generation, one has to assimilate these enormously diverse bits of information", pointed out Dr. R.S. Pirta, the Coordinator of the course. In a three week programme, he said, although it was impossible to feed in the minds of participants the enormous and at times contradictory viewpoints, but the objective should be to sensitize them to the major environmental issues.

The topics covered in the refresher course were : ecology of mind, remote sensing, natural hazards, pesticides and other chemical pollutants, motivational strategies, technology and development and horticulture and floriculture in Himalayas. The participants were given in-depth information on some contemporary social movements related to environment. These included Chipko Movement of Garhwal Himalaya, consumer protection movement in India, animal welfare movement, deep ecology movement of West and involvement of women and local NGO's in environment conservation and management.

The participants showed great interest on seemingly small things, of course, valuable from environmental protection viewpoint, like the utilization of waste, spreading message of environment protection through poems, songs and posters, drip irrigation to save water during irrigation, mixed cropping, and the hazards of polythene bags.

Some topics thrown up for debate among the participants were

the parks and people, construction of large dams and the problems of water and electricity distribution, and globalization associated with bio-diversity conservation and patent rights under the GATT (WTO).

Shri S.S. Parmar, Vice-Chancellor of the University, in his valedictory address, posed a very important question to the participants. He asked: "Do we go for big dams? or Do we go for primitive life?" He said that there was no end to this debate. The important question, however was, how to keep a balance between today and tomorrow. Dr. Yoginder Verma, Director, Academic Staff College, said that in view of the keen interest of teachers and increasing importance of environment in life, H.P. University - Academic Staff College would organise two refresher courses in environment from May 20 to June 8 and Aug. 12 to Aug. 31, 1996.

Science Communication Workshop

The Chemistry Department of the Gulbarga University recently conducted a Workshop on Science Communication, as a part of the "Silver Jubilee Year Celebrations" of the Department. Inaugurating the Workshop, Professor M. Muniyamma, Vice-Chancellor, stressed the importance of the communication skills for students engaged in Science & Technology activities and said that such skills would also help to take the message of science across the society. Dr. K. R. Srinivasan of National Chemical Laboratory, Pune, who presided, suggested that Gulbarga University could be the first among the Indian Universities to include a course in science communication in the M.Sc.

syllabus. Dr. M.A. Pujar, Chairman of the Department, in his welcome address, said that Gulbarga University was the first in the country to conduct such a workshop exclusively for the benefit of research students of various science disciplines.

The topics covered at the workshop included ethics in science, channels of communication, patents, components and common faults of research paper writings, citation, impact factors of scientific journals, technical report writing, oral and poster presentations and popular science writing. A separate session on the theme "knowledge as wealth" was also organised at which the participants made oral presentations followed by experts evaluation.

Dr. B.S. Krishnamurthy, Dean, Faculty of Science and Technology of the University in his valedictory address, focused on the communication gaps between teachers and students and felt that such workshops were very essential for bridging the gaps in communication.

A large number of students from various science disciplines actively participated in the two-day workshop.

Society for Management Education

A two-day national seminar on "Management Education for the 21st Century", followed by a two-day workshop on "Management of Management Schools", organised by the Indira Gandhi National Open University (IGNOU) in collaboration with the Association of Indian Management Schools (AIMS), is reported to have recommended the formation of an Indian Society for

Management Education.

Over 200 participants from all over India unanimously accepted the suggestion of forming a society for proper development of management education in the country, particularly after the phenomenal rise in institutes offering diplomas and degree in management.

The seminar-cum-workshop also recommended that management education should be value-based and be network-oriented, where the intellectual, physical and the library resources were shared.

Tele-conference, Internet and E-Mail should be utilised extensively, participants felt. They also felt that the management curriculum should be overhauled at least once a year and internal and external quality assurance should be instituted.

XVII IASLIC National Seminar

The XVII National Seminar of the Indian Association of Special Libraries & Information Centres is proposed to be hosted by the Department of Library Science, University of Calcutta, Calcutta during December, 1996. The theme of the seminar is "Meeting the Information Challenge for Development and Self-Sufficiency".

The seminar aims at reviewing the information facilities required to achieve socio-economic development and self-sufficiency. The issues proposed to be taken up at the seminar include : Information as a strategic resource for socio-economic development and growth; Sources, Organisation and Access to Govt. held information on policy, legislation, infra-structural facilities, demographic

and geographic parameters; Global sources of Information for Technology Transfer, Business & Trade opportunities, Trans-border dataflow; Facilitating access to and participation in international databases and networks; Promoting indigenous databases & networks for accessing local information on S&T, Agriculture, Investments, Finance, Business

and Trade; and Issues concerning Intellectual Property Rights, Patents, Copyright, Quality Control, etc.

Further details may be obtained from Mr. J.N. Satpathi, Hony. General Secretary, Indian Association of Special Libraries & Information Centres, P 291, CIT Scheme 6M, Kankurgachi, Calcutta-700 054.

News from Agricultural Universities

Seminar on Buffalo Research for Higher Productivity

A national symposium on Buffalo Research for Higher Productivity was recently organised at the Chaudhary Charan Singh Haryana Agricultural University.

Inaugurating the symposium Dr. M.L. Madan, Deputy Director General of Indian Council of Agricultural Research (ICAR) stressed the need of conducting location specific researches depending upon the demand of buffalo milk and meat. He said this animal had great milk and meat potential that had not yet been fully explored. However, India could make a mark in the world market in the export of beef which was in great demand the world over, he added.

Dr. Madan called upon the animal scientists to involve farmers' animals in performance recording and their utilization in progeny testing of buffalo bulls. He also emphasised to adopt open nucleus ovulation embryo transfer for quicker genetic improvement.

Dr. S. Arya, Vice-Chancellor, in his presidential remarks, expressed concern over the genetic erosion of buffaloes from rural to

metropolis where high yielding animals were being taken for meeting milk demand of urban population and slaughtered after they went dry.

Dr. D.P. Singh, Dean, College of Agriculture said, "India accounts nearly 55% of the world buffalo population but its share in the world export market of buffalo meat is insignificant". He further said, "There are socio-religious constraints for the development of buffalo meat industries meant for internal consumption". However, ways and means for exploiting this potential for export purposes could be found out, he added.

Organised by the Indian Society for Buffalo Development, the 2-day symposium was attended by over hundred animal scientists from all over the country.

We Congratulate

Dr. Mandan Mishra who has been appointed Vice-Chancellor of the Sampurnanand Sanskrit University, Varanasi.

News from UGC

Countrywide Classroom Programme

Between 8th May to 15th May, 1996 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 6.00 a.m. to 7.00 a.m. and 1.00 p.m. to 2.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission
6.00 a.m. to 7.00 a.m.

09.5.96

"The Story of a Carpet"
"Earthquake - Part I: A Global Perspective"
"Yours Sincerely"

11.5.96

"Reaching out to the Heavens"
"Highlights of Half Century: Structure of the United Nations"

12.5.96

"Thresholds"
"The Brass Family"
"The Week Ahead"

14.5.96

"Bookfare - Part IX : Indian Poetry in English"
"Study of Forced Oscillations - Part III"
"Anaemia"

2nd Transmission

1.00 p.m. to 2.00 p.m.

08.5.96

"Raag Sangeet - Part I: Yaman"
"The Miraculous Cosmos of the Brain: The Brain - An Organ"

09.5.96

"New Horizons"

"Geo: How the Earth Came Into Being"

10.5.96

"Growing Buds... Smiling Petals"
"These Leaves Never Wither"

11.5.96

"Thanjavur - A Kalakshetra"
"Sense of Behaviour"
"Drag, Lift and Sports"

12.5.96

"No Telecast"

13.5.96

"The Week Ahead"
"Human Resource Development - Part 7: Transfer"
"Jute - Part 4"

14.5.96

"Supermolecules - From Chemistry to Biology"

"Maxillofacial and Oral Surgery - Part I"

15.5.96

"Hands Behind Textile Processing"
"Mahabalipuram : Recent Excavations"
"The Importance of Animal Pathology"

Hindi Telecast

प्रातः 6.00 से 6.30 बजे तक

8.5.96

"पर्वतीय पर्यटन — एक परिदृश्य - भाग - 2"
"ग्रामीण आवास समस्या"

10.5.96

"लीथियम : इक्कीसवीं शताब्दी की एक महत्वपूर्ण घातु"

13.5.96

"सृजन : रंगमंच और व्यक्तित्व विकास भाग - 1"

15.5.96

"सृजन : रंगमंच और व्यक्तित्व विकास भाग - 2"

News from Abroad

Novel Test to Detect Cholera Toxin

A new and easy way to prevent the dreadful cholera is in the offing as researchers in the United States are reported to have developed a novel test for detecting minute traces of bacterial poisons and viruses.

According to the *British Journal of Chemistry and Industry*, drinking water available to a large chunk of populace in developing countries is unhygienic and a good breeding ground for biological pathogens that cause infectious diseases like cholera. Though there are certain techniques currently available to detect these microbes present in water, they are cumbersome and

time-consuming. But recently a joint research team from the Lawrence Berkeley Laboratory and the Berkeley-based University of California developed a novel test that relies on a simple colour change. Although the films can be made to detect any species that binds to a component of a cell wall, the U.S. scientists expect that one of its main applications will be to detect cholera toxin in developing countries' water supplies and to detect botulinum toxin, a biological weapon. Simple, fast tests for such biological pathogens are needed urgently as today they can only be detected by the cumbersome polymerase chain reaction.

BOOK REVIEW

A Clear Exposition

R. Gopalakrishnan*

N L Gupta. *Education and Value in the Mahabharata*. Delhi, Concept. Pp. 164. Rs. 270/-

The word 'education' literally means the system by which the inner potentialities of human beings are manifested. In fact animals and other sub-human species behave mostly on instincts. Only the human beings learn, study and get themselves educated. The end of education is to behave according to one's wit thereby leading to perfection. By the word 'value' we mean the worthwhile principle the adoption of which makes men perfect. Thus both education and value strive for one common goal viz., human perfection.

The author of the monograph '*Education and Value in the Mahabharata*', N.L. Gupta, has made a comprehensive survey of these two concepts and has substantiated his claim with appropriate evidences and citations taken from the grand epic. It is really fascinating to note the author's interest in establishing the various interpretations of the main theme of the epic. The social stratification of that era, the system of education that prevailed then, the contributions of the warrior class and the rulers in fostering various systems of learning, multi-dimensional curriculum, *Dandniti*, waycraft, sixty four *kalas*, medical science, botany, veterinary sci-

ence, etc are well explained in the light of the Mahabharata.

Any literature has to inculcate one or the other value and Mahabharata is no exception. It lays stress on the four celebrated *purusarthas*. As this work mainly wants to highlight the significance of *dharma* even to common man, it has recourse to stories within a main story. The author discusses the importance of King and Kingdom in establishing order in the society where *dharma* prevails, since the rulers are the custodians of *dharma*. 'As the ruler so that ruled'. The other criteria to determine *dharma* is spiritualism vs materialism and karma vs destiny. The author equates value education with the traditional moral or religious education and illustrates many episodes from the grand epic. Righteousness as a code of conduct is emphasised to achieve the ambitious goal for preserving *dharma*.

The author analyses various morals of learning at various cen-

tres such as hermitages, *parisads*, royal assemblies, etc. The vital issues of maintaining teacher-taught relationship, the qualities of the trained teachers to mend the students, the parent-teacher relationship, etc are well brought out with suitable illustrations from the Mahabharata. The author concludes his work by pointing out that 'If we go deep into the philosophy of values, we come to the conclusion that the view-point of the Mahabharata has been very practical and appealing'. The relevance of *yug-dharma* (changeable set of values) and *sanatan-dharma* (eternal set of values) to the modern world is stated. A few appendices are also really appealing and the glossary with biographical notes is really useful. On the whole this monograph by N.L. Gupta is a clear exposition of the everlasting values of education. The past is working through the present towards the future. Anything that is eternal alone can sustain the onslaught of time. Undoubtedly the system of education with several modifications still survives and the present scholars on education look for the past systems of education to implement it for the present day which lacks really value-oriented system of education. This work will be of immense help to them to cull out the inherent potentialities of the present day youth.

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*Reader, Radhakrishnan Institute for Advanced Study in Philosophy, University of Madras, Madras.

COMMUNICATION

Teaching Large Classes

This has reference to *University News* of Jan. 1, 1996 in which 'Teachers' Perception of Large Classes' is published.

That V.B.B. Sarma of University College of Education, Osmania University, Hyderabad has carried out a study of Teachers' Perception of Large Classes is indeed commendable because he has touched upon a vital and relevant area of academic investigation. Though his sample is modest (consisting of 60 teachers), the conclusions drawn are worth considering and have implications for the success of academic endeavour in our country.

It is doubtless a Herculean task to teach a large class sometimes consisting of 80 to 100 students of unequal abilities. If teaching is defined by the learning that has taken place in a pupil, then it is doubtful how much real learning takes place in such large classes.

Although the concept of a large class has come to stay in our emerging system of mass education, not enough has been done to discovering ways and means of dealing effectively with the problems of teaching in large classes. It is obvious that if enough attention is paid to problems and difficulties of teaching in large classes, some effective and suitable changes can be introduced in curriculum, structure of text-books, teaching methods as well as evaluation techniques so that damage done to learning in large classes is minimised though it can never be altogether eliminated. Because as rightly pointed out by the au-

thor 'cognitive abilities like discrimination, application and critical thinking' — the vital abilities for intellectual development cannot be adequately developed in

pupils who are required to learn in large classes.

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REGISTRAR

— davy 1151(1)96

RESEARCH IN PROGRESS

A list of research scholars registered for doctoral degrees in Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Kalbhor, Gopinath. Madhya Pradesh ke mahavidyalayeen granthalaya: Sangathan evam prashasan tatha unke liye pradarsak ka rupankan. Vikram. Shri S Kumar, Reader, School of Studies in Library and Information Science, Vikram University, Ujjain.

2. Shah, Leela. A comparative study of common, space and time isolates with special reference to DC, UDC and CC and developing uniform tables for these isolates. Vikram. Shri S Kumar, Reader, School of Studies in Library and Information Science, Vikram University, Ujjain.

Psychology

1. Suvarna, P. Psycho-social correlates of altruism. Kerala. Dr. Immanuel Thomas, Lecturer, Department of Psychology, University of Kerala, Thiruvananthapuram.

Sociology

1. Ravi Sanker, S. Social values, organisational climate and managerial performance: A study of industries in Kerala. Kerala. Dr Jacob John Kattakayam, Reader, Department of Sociology, University of Kerala, Kariavattom.

2. Xavier, A J Francis. Women's empowerment and child health. Kerala. Dr P S Nair, Additional Director, Population Research Centre, Kariavattom.

Political Science

1. Modi, Deepak Kumar. Bhartiya rajniti mein kshetritayavad : Vartaman andolan ke vishesh sandarbh mein. HS Gour. Dr R P Gautam.

Economics

1. Nair, Manju S. Changing character of services sector : An impact analysis. Kerala. Dr G Karunakaran Pillai, Prof University of Kerala, Department of Economics, Kariavattom.

2. Narayanan Namboothiry, V. Interlinkage between marketing and credit in agriculture. Kerala. Dr P N Sankaran, Chief, Decentralised Planning, Kerala State Planning Board (Annexe) Medical College PO, Thiruvananthapuram.

3. Sindhu, J S. Human resource and development. Kerala. Dr M Kunhaman, Reader, Department of Economics, University of Kerala, Kariavattom.

4. Sundaresan, R. Technology and production in traditional industries of Kerala. Kerala. Dr P N Sankaran, Chief, Decentralised Planning Kerala State Planning Board (Annexe) Medical College PO, Thiruvananthapuram.

5. Thomas, Alex. Structure of international cashew markets. Kerala. Dr P N Sankaran, Chief, Decentralised Planning, Kerala State Planning Board (Annexe), Medical College PO, Thiruvananthapuram.

Public Administration

1. Choudhary, Rajesh. Functions of personnel management in public and private enterprises. HS Gour. Dr. S.S. Sodhi.

2. Guraha, Alka. Panchayati raj mein nirvachit mahila pratidinhiyon ke bhumika : Khural ke visheah sandarbh mein. HS Gour. Dr (Smt) Shobha Shanker.

Commerce

1. Amala, A K. Evaluation of the working of Kerala State Development Corporation of scheduled caste and scheduled tribes. Kerala. Dr M Sarngadharan, Prof and Head, Department of Commerce, University of Kerala, Thiruvananthapuram.

2. Pradeepkumar, K. Leadership styles in small scale industries. Kerala. Dr C Ganesh, Sr. Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

HUMANITIES

Language & Literature

English

1. Celine, P C. The human dimensions of history and politics in the novels of Chaman Nahal. Kerala. Dr V Lalitha, Department of English, All Saints College, Thiruvananthapuram.

Hindi

1. Aachchha, Babulal. Chhayavadi kavita ka shaili vaigyanik adhyayan: Katipaya vishisht kavityaon ke sandarbh mein. Vikram. Dr Shiv Sahaya Pathak, Prof, (Retd) Mahashweta Nagar, Dewas Road, Ujjain.

2. Abdul Vasim Shaikh. Nirala evam Josh Malihabadi ke kavya ka tulnatmak anusheelan. Vikram. Dr Hari Mohan Budholia, School of Studies in Hindi, Vikram University, Ujjain.

3. Agrawal, Narendra. Tagore aur Nirala ke kavya ka tulnatmak anusheelan. Vikram. Dr Hari Mohan Budholia, School of Studies in Hindi, Vikram University, Ujjain.

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5. Dube, Munindra Kumar. Acharya Pt Hazari Prasad Dwivedi ke shailiya mein lahitya vidhan. Vikram. Dr Om Prakash Airen, Prof, Department of Hindi, Govt Arts and Science College, Ratlam.

6. Jain, Ganeshlal. Pt Ramnarayan Upadhyaya ke nibandhon ka sameekshatmak anusheelan. Vikram. Dr Shiv Sahaya Pathak, Prof (Retd) Mahashweta Nagar, Dewas Road, Ujjain.

7. Jain, Savita Bai. Hindi ke manovigyanik upanyason ka anusheelan: Ila Chandra Joshi, Jainendra aur Agyeya ke upanyason ke vishlesh sandarbh mein. H S Gour. Prof B P Tewari, Prof (Retd), Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

8. Kishwaha, Shivahankar. Bhakti kavya mein prem ke vividh avdharnayon ke swarup ka vivechan. H S Gour. Dr Anand Prakash Tripathi, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

9. Mishra, Rajani. Malti Joshi ke katha sahitya mein parivarik chetana ka anusheelan. H S Gour. Dr Suresh Acharya, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

10. Rajput, Nandita. Madhya Pradesh mein Hindi gadya ke premukh vyangyakaron ke rachansyon mein samajik chetana ka adhyayan. H S Gour. Dr Suresh Acharya, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

11. Sharma, Manju. Chhayavadi kavya mein darshanik chetana. Vikram. Dr Hari Mohan Budholia, School of Studies in Hindi, Vikram University, Ujjain.

12. Shrivastava, Vishnu Prasad. Prasad sahitya mein niyativadi drishtikon. Vikram. Dr Hari Mohan Budholia, School

of Studies in Hindi, Vikram University, Ujjain.

13. Shukla, Pramod Kumar. Samkalpen Hindi natakon mein charitra drishti ke parivartit rupon ka adhyayan, 1975 se 1995 tak. H S Gour. Dr Anand Prakash Tripathi, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

14. Suchit, C S. A comparative study of social philosophy of Kabir and Sree Narayana Guru. Kerala. Dr N Ravindranath, Prof and Head, Department of Hindi, University of Kerala, Kariavattom.

15. Tewari, Uma Devi. Madhya Pradesh ke Hindi vyang lekhkon ke katha sahitya ka anusheelan. H S Gour. Prof B P Tewari, Prof (Retd), Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

16. Vajpai, Uma. Harivansh Rai Bachchan ke kavya mein anubhuti, shilpa aur darshan. Vikram. Dr Hari Mohan Budholia, School of Studies in Hindi, Vikram University, Ujjain.

17. Veena, J. Hindi ke rashtriya kavya parampara aur Makhnial Chaturvedi ka kavya. Kerala. Dr V P Mohamed Kunju Metharu, Department of Hindi, Institute of Distance Education, University of Kerala, Kariavattom.

18. Yadav, Gajendra Singh. Ashok Vajpai ke kavita aur alochana praddhati ka vishleshan. H S Gour. Dr Suresh Acharya, Department of Hindi, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

Malayalam

1. Antharjanam, Saraswathy. 'Randidangasht', chemmeen, coir anee novelukal ressidantham aspadhamaki oru padanam'. Kerala. Dr S V Venugopan Naair, Head, Department of Malayalam, M G College, Thiruvananthapuram.

2. Sreekumar, B. Malayalathile Anuprayogangal : Bhasha sahstraparamaya oru padanam. Kerala. Dr V S Ramakrishnan, Reader, Department of Malayalam, University of Kerala, Kariavattom.



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Eligibility: (For Sl. Nos. 5 & 6): Bachelor's degree in Arts, Science, Commerce, Agriculture, or Engineering or equivalent qualifications.

7. Diploma in Sugar Technology

8. Diploma in Fertilizer Technology

Eligibility: (For Sl. Nos. 7 & 8) : (i) B.Sc. degree holders with Chemistry as one of the subjects, (ii) B.Sc. (Agriculture), (iii) Diploma (three years) in either Chemical or Mechanical Engineering.

9. Diploma in Industrial Safety

Eligibility: A graduate in Science/Arts/Agriculture/B.Pharm./M.B.B.S./Degree in Nursing or any Diploma (3 years) holder/Degree holder in Engineering or Technology.

10. Diploma in Industrial Pollution and Control

Eligibility: B.Sc. degree with Chemistry/ Physics/Botany/Zoology as Main or ancillary subjects or Diploma (3 years)* holders in any Branch of Engineering and Technology or M.B.B.S./B.Pharm./Degree in Nursing.

11. Diploma in Industrial Hygiene

Eligibility: (a) Graduate in Science (B.Sc.), (b) M.B.B.S./B.E./B.E. (Chem.)/B.Tech., (c) B.Pharm./B.Sc. (Agri), (d) Diploma (3 years) in Engineering/Nursing, (e) M.B.A.. (If the applicants have studied Physics, Chemistry and Botany at the Higher Secondary level).

12. Diploma in Energy Management Technology

Eligibility: (a) Graduates in B.A./B.Sc./B.Com., (b) B.E./B.E. (Chem.)/B.Tech./B.Pharm., (c) B.Sc. (Agri.)/M.B.A., (d) Diploma (3 years) in Engineering/Technology.

13. Post Graduate Diploma in Guidance and Counselling

Eligibility: (a) B.A. Psychology/M.A. Psychology, (b) Graduation in any discipline with a minimum of 3 years experience in Teaching/Administrative/Clinical Profession.

Certificate Courses in

14. Automobile Technology*

15. Offset Machine Printing*

16. Binding and Finishing*

17. Office Management*

Eligibility: (For Sl. Nos. 14 to 17): A pass in SSLC (X Standard) or equivalent examination

VIII. LIBRARY SCIENCE COURSES

Duration: One Year

1. B.L.I.S. (Bachelor of Library and Information Science)

Eligibility: Any degree.

2. M.L.I.S. (Master of Library and Information Science)

Eligibility: Bachelor of Library Science /Bachelor of Library and Information Science or equivalent qualifications.

MEDIUM OF INSTRUCTION

ALL THE COURSES, EXCEPT THOSE IN TAMIL LITERATURE, ARE OFFERED IN ENGLISH MEDIUM. COURSES ENDING WITH* MARKS ARE OFFERED IN TAMIL MEDIUM ALSO.

COST OF APPLICATION FORM FOR EACH COURSE IS Rs. 50/-.

Application form and prospectus can be had from the Director, Directorate of Distance Education, Annamalai University, Annamalai Nagar - 606 002 on requisition along with a crossed Demand Draft drawn in favour of the Director, D.D.E., Annamalai University on any bank at Annamalai Nagar/Chidambaram, mentioning clearly the name of the course for which the application form is required and a self-addressed cover of size 25 cm x 12 cm. Cheques, Postal Orders and Money Orders are not accepted. Demand Draft should be purchased on or after 29.04.1996.

Applications can also be had in person on cash payment from the Directorate of Distance Education and the following Study Centres and Information Centres** of the Directorate from 29.04.1996.

Those who want to get applications by post should apply to the Directorate only and not to the Study Centres.

All the Study Centres and Information Centres except that at Annamalai Nagar will remain closed on all Tuesdays, Second Monday and all other public holidays.

Applications for all courses will be issued upto 16.08.1996.

The last date for receipt of filled in applications for all courses is 26.08.1996.

Filled in applications should be sent only to the Director, Directorate of Distance Education, Annamalai University, Annamalai Nagar, Tamil Nadu, Pin: 606 002. In no case filled in applications should be sent to the study centres.

SPOT SELECTION FOR ADMISSION

Spot selection for admission to all Courses except M.Sc. (Physics, Chemistry, Zoology, and Botany), will be made through all our Study Centres if the applicants submit along with their applications the necessary original certificates, xerox copy of certificates, Demand Draft for the prescribed fee and two copies of their recent photographs of 4 cm x 3 cm size. The Spot selection is provisional and subject to confirmation by the Director.

CAUTION

THE DIRECTORATE HAS NO AGENTS. APPLICANTS ARE ADVISED TO WRITE TO THE DIRECTORATE INDIVIDUALLY FOR APPLICATION FORMS AND ADMISSION. APPLICATIONS FOR ADMISSION RECEIVED THROUGH TUTORIALS OR ANY OTHER AGENCIES WILL BE SUMMARILY REJECTED.

PLACE: Annamalai Nagar

DATE: 17-04-1996

Dr. A. SUBRAMANIAN

DIRECTOR

** (1) MADRAS: 19, Rukmani Lakshminipathi Road, Egmore, Madras - 600 008 (☎ 8555010); (2)*27, North Park Street, Venkatapuram, Ambattur, Madras - 600 053; (3) *11, First Cross Street, New Colony, Chrompet, Madras - 600 044; (4) TIRUCHI: 32-B, 7th Cross, Thillai Nagar, Tiruchi 620 018; (5) SALEM: 15, Dr. Subbarayan Street, Salem - 636 001 (Near Palace Theatre) (☎ 419680); (6) *NAGERCOIL: 318-E, K.P. Road, Nagercoil - 629 001 (☎ 30561); (7) TIRUNELVELI: 49-C, Kailasapuram North Street, Bava Building (Near Bus Stand) Tirunelveli - 627 001 (☎ 322923); (8) VELLORE: 4, Thiagarajapuram, Vellore - 632 001 (Near Lakshmi Theatre) (☎ 27647); (9) MADURAI: 176, North Vell Street, Madurai - 625 001 (☎ 541327); (10) COIMBATORE: 72, Sarojini Street, Ram Nagar, Coimbatore - 641 009 (☎ 234406); (11) KARAUKUDI: 7, Seventh Street, Subramanapuram, Karaikudi - 623 002. (☎ 23417); (12) NEW DELHI: 51 A, Institutional Area, Tughlaqabad, (Near Batra Hospital), New Delhi - 110 062. (☎ 6967638); (13) CALCUTTA: 19, Sardar Senkar Road, Calcutta - 700 029 (☎ 4667215). (*Information Centres).

CLASSIFIED ADVERTISEMENTS

SACRED HEART COLLEGE THEVARA, COCHIN-682 013

WANTED

Jr. Lecturers (both community and open quota) for the vacancies likely to arise in English and Physics subject to government, university and U.G.C. norms and regulations. The appointment will be for Pre-degree category and no claim for appointment to the U.G.C. scheme vacancies. The qualification will be P.G. with 50% marks in concerned subject and B.Ed. and completed 22 years of age or is not above 35 years of age as on 1-1-1996. Application forms can be obtained from the College Office on payment of Rs. 100/- (Rs. 110/- by post). Apply within 30 days of this notification to:

The Manager, Sacred Heart College,
Thevara, Cochin-682 013

BANARAS HINDU UNIVERSITY VARANASI 221 005

Advertisement No. 1/1996-97

Applications are invited on white paper of 28 x 23 cm size on the prescribed format (in 10 sets) along with a Bank draft/ Overseas Postal Order of Rs. 100/- for General Candidates and OBCs (Rs. 25/- for SC/ST candidates) drawn in favour of the Registrar, Banaras Hindu University payable at Varanasi. Cash/Money Orders/Cheque will not be accepted. Candidate shall apply separately for each post. Application duly filled in will be received in the Office of the Registrar (Selection Committee Section), BHU, Varanasi 221 005, India through post or by hand from 10.30 AM to 2.30 P.M. on all the working days. The last date for receipt of application is May 31, 1996. Incomplete applications will not be entertained. Inservice candidates shall apply through proper channel.

NOTE : (1) Mere eligibility will not vest any right in any candidate for being called for interview. The University's decision in this regard shall be final. (2) University reserves its right to withdraw any post/posts covered under this advertisement. FORMAT of application shall consist of

(1) Post applied for; (2) Advertisement No. Sl. No. of the post; (3) Name of the Candidate; (4) Father's Name; (5) Address (Present & Permanent); (6) Date of Birth; (7) Marital Status; (8) Nationality; (9) Category (SC/ST/OBC/General); (10) Academic record (from High School to highest qualification) consisting name of University/Board, Class/Division/Percentage of marks/Year of Passing etc.; (11) Employment experience; (12) Research publications; (13) Conference/Seminar/Symposia attended; (14) Language(s) known; and (15) Signature of the Applicant. Forwarding by the Employer (in case of in-service candidates). Additional information and supporting documents in respect of the items should be annexed with the application form.

1. Public Relations Officer (One)
Grade Rs. 3700-125-4950-150-5700

Qualifications :

Essential : i) A postgraduate degree with at least 55% marks or its equivalent.

ii) A degree/diploma in Journalism/Public Relations.

iii) Ten (10) years experience in Public Re-

lations of Academic/Research Institutions of repute out of which 8 years experience in the grade of Rs. 2200-4000.

iv) Experience of handling advertisement and advertising agencies.

v) Good command over English and Hindi.

Desirable : i) Experience in Editing/Publishing house journal/News letters.

ii) Experience in independent reporting/preparing press releases of Seminars/Symposia/Conferences of academic/Research Institutions.

iii) Working knowledge of Newspapers/Magazines.

iv) Experience of office management.

v) Working knowledge in computers preferably "Desk Top Publishing"

vi) Knowledge of Modern Methods of Mass Communications

2. Deputy Registrar (Five) (SC : 1, ST : 1, OBC : 1 & General : 2)

Grade : Rs. 3700-125-4950-150-5700

Qualifications :

Essential: i) A postgraduate degree with at least 55% marks or its equivalent grade.

MASS COMMUNICATION RESEARCH CENTRE

JAMIA MILLIA ISLAMIA

NEW DELH-25

ADMISSION NOTICE NO. XIV 1996

Applications are invited for a two years M.A. course in Mass Communication. Candidates who have taken their first degree in any discipline under the 10 plus 2 plus 3 system are eligible to apply provided they have secured 50% marks in their first degree examination. Candidates should not be more than 30 years of age as on 1.8.1996. Those who are appearing in their final year of qualifying examination can also apply.

Application form alongwith the Prospectus can be obtained from 1.5.1996 either directly from the office of the Centre on cash payment of Rs. 20/- from 10.00 a.m. to 1.00 p.m. on any working day, or through post by sending a self-addressed envelope (size 7" x 10") alongwith a Bank draft or Indian Postal Order for Rs. 30/- in favour of Mass Communication Research Centre, Jamia.

Applications accompanied by Indian Postal Order or a Demand Draft for Rs. 150/- (Non-refundable) drawn on the Union Bank of India (Extension Counter), Jamia Nagar as entrance test fee in favour of Mass Communication Research Centre, Jamia, must reach the undersigned on or before 27th May 1996, 5.00 p.m.

Applications received after prescribed date and time will not be entertained at all.

Dated: 18.4.1996

M.B. Mughal
Controller (Admn. & Finance)

ii) 8 years experience as a Lecturer in a College or a University with experience in educational administration.

OR

Comparable experience in research establishments and other institutions of higher education.

OR

8 Years administrative experience as Assistant Registrar or in a post carrying a scale of pay of Rs. 2200-4000.

3. Medical Officer (One) (Reserved for S.T. Candidates) University Employees Health Services Scheme

Grade Rs. 2200-75-2800-100-4000

Qualifications :

Essential : i) MBBS recognised by Medical Council of India.

ii) MD/MS in any clinical subject.

iii) Preference will be given to experienced candidates.

4. Medical Officer - (Three) (OBC : 1 & General : 2 (including one Lady Medical Officer).

Deptt. of P.S.M., Institute of Medical Sciences

Grade Rs. 2200-75-2800-100-4000

Qualifications :

Essential: i) MBBS or equivalent qualification recognised by the Medical Council of India.

ii) MD (PSM/Community Medicine) recognised by the Medical Council of India

Desirable : Experience of field work. Experience of working in a Health Centre or in the Department of P.S.M. as Senior Resident or in Similar post.

Job requirement: Managing the Health Centre activities including Interns' Training Programme.

NOTE (for Medical Officer) :

1) In case candidates with MD (PSM) qualifications are not available for the post of LADY MEDICAL OFFICER, the essential qualification may be relaxed to MBBS recognised by MCI with experience of working in the Hospital or Health Centre for three years.

2) Selected candidates will have to stay at the Rural Health Centre of the University. University accommodation will be provided as per rules.

REGISTRAR

**S.N.M. COLLEGE,
MALIANKARA,
MALIANKARA P.O.
ERNAKULAM DISTRICT,
KERALA STATE - PIN. 683516.**

WANTED

This is in continuation of our earlier advertisement and in the light of G.O. (MS) No. 30/96/H.Edn. dated 12.2.1996.

G.O. (MS) No. 30/96/H.Edn. dated 12.2.1996 fixed the qualification of Junior Lecturers as Post Graduate Degree in the concerned subject with minimum 50% marks and B.Ed. Degree.

The 4 posts in Mathematics adver-

tised earlier, two posts and the post of Economics fall in the G.O. (MS) No. 30/96/H.Edn. dated 12.2.1996 category. The other two posts of Mathematics come under U.G.C. with U.G.C. qualifications. The receipt of applications for the above two category of posts is extended upto one more month from the date of issue of this notification. The Junior Lecturers appointed as per this G.O. will have no claim for U.G.C. benefits.

Age : As per Rules

Pay of Junior Lecturers : State Scale of pay (Rs. 2060-3200)

Application forms can be had from the Principal, S.N.M. College, Maliankara,

VETERINARY COUNCIL OF INDIA

(STATUTORY BODY OF THE GOVT. OF INDIA CONSTITUTED

UNDER INDIAN VETERINARY COUNCIL ACT, 1984)

16/15, W.E.A., KAROL BAGH, NEW DELHI-110 005

NOTICE

Notified for the information of General public that veterinary qualifications granted by veterinary institutions in the country which are recognised and included in the First Schedule to the Indian Veterinary Council Act, 1984 are the only recognised veterinary qualifications for purposes of the Indian Veterinary Council Act, 1984.

Candidates in this respect are warned that they should not take admission in any veterinary institution which is not recognised by the Veterinary Council of India

This warning is being issued in pursuance of the decision of High Court of Patna dated 19-09-95 in CWJC No. 3343 of 1994 has so held following the decision of Supreme Court in the case of Managing Committee of Bhagwan Budha Primary Teachers Training College and Ors. Vs. State of Bihar and Ors, reported in 1990 (Suppl.) S.C. 772.

FURTHER NOTIFIED THAT UNDER THE PROVISIONS OF THE INDIAN VETERINARY COUNCIL ACT, THE RULES AND REGULATIONS FRAMED THEREUNDER, ONLY THE VETERINARY COUNCIL OF INDIA IS TO HOLD ALL INDIA COMMON ENTRANCE EXAMINATION FOR FILLING UP OF 15% OF TOTAL NUMBER OF SEATS OF EACH VETERINARY COLLEGE.

The High Court of Kerala in Writ Appeal No. 129 of 1996, declared the selection of ICAR nominees from Lakshadweep Administration to B.V.Sc. & A.H. course as illegal and has held that after passing of the Regulations of the Council 1993**, 15% of the seats have to be filled up by Veterinary Council of India on the basis of common entrance examination conducted by it on All India basis and the remaining 85% of seats have to be filled up by the respective Universities through common entrance examination if the State having more than one University conducting qualifying examination. For seats reserved for a particular class or category, candidates belonging to such class or category have to appear for entrance examination and the selection should be made on the basis of the inter se ranks obtained by such candidates. Selection cannot be by any other method.

The general public and candidates seeking admission in Veterinary Colleges by any other method shall be doing so at their own risk and consequences

AS ALREADY ANNOUNCED, THE VETERINARY COUNCIL OF INDIA IS HOLDING ALL INDIA COMMON ENTRANCE EXAMINATION ON 26TH MAY, 1996

SECRETARY

**The Veterinary Council of India - Minimum Standards of Veterinary Education - Degree Course (B.V.Sc. & A.H.) Regulations, 1993, [Gazette of India - extraordinary, Part II - Section 3 - Sub-section (i)] No. 57; Dated the Monday, Feb. 7, 1994/MEGHA 18, 1915.

dayp 1198(1) 96

Pin. 683516 on payment of Rs. 100/- by cash or Rs. 107/- by M.O. Postal Orders and Demand Drafts will not be accepted.

MANAGER

SHIVAJI UNIVERSITY, KOLHAPUR

ADVERTISEMENT

Applications are invited for the post of JRF in DST funded project entitled "ION TRANSPORT STUDIES THROUGH SUPPORTED LIQUID MEMBRANE CONTAINING MACRO CYCLIC POLYETHERS" under the supervision of Dr. B.S. Mohite. The tenure of the project would be for about 18 months. JRF: one post. QUALIFICATIONS: M.Sc. in Chemistry, preference will be given to CSIR-UGC/NET/GATE qualified candidates. AGE LIMIT: 30 years & relaxable by five years for Reserved Category. STIPEND: As per D.S.T. rules (including HRA Rs. 450 p.m.)

Interested candidates should submit their applications on plain paper giving details of qualifications and bio-data to Dr. B.S. Mohite, Department of Chemistry, Shivaji University, Kolhapur - 416 004, within one month from the date of this advertisement.

Kolhapur
Date : 22-4-96

Dr. B.P. SABALE
REGISTRAR

SHIVAJI UNIVERSITY, KOLHAPUR

Advertisement

Applications are invited for a post of JUNIOR RESEARCH FELLOW on the DST sponsored project entitled, "Aquatic Plant Diversity of Coastal Plains of Konkan, Goa and Kanara", under the supervision of Dr. S.R. Yadav.

QUALIFICATIONS: M.Sc. with First class in Botany.

Preference will be given to the candidates who have passed UGC-CSIR/NET/GATE examinations with, "Taxonomy of Angiosperms" as specialization at M.Sc. level.

DURATION: Three years (1st Oct., 1995 to 30th Sept., 1998)

FELLOWSHIP: JRF (1st and 2nd year) Rs. 2500/- p.m. + HRA (Subsequent year/SRF) Rs. 2800/- p.m. + HRA.

Applications on plain paper giving details of full name, Date of Birth, Educa-

tional Qualifications, Experience, if any, should be submitted to Dr. S.R. Yadav, Department of Botany, Shivaji University, Kolhapur-416 004 on or before 15th May, 1996.

Kolhapur
Date : 22-4-96

Dr. B.P. SABALE
REGISTRAR

UNIVERSITY OF JAMMU

VACANT POSITIONS

Applications in the prescribed form obtainable from the University office are invited for the following vacant posts so as to reach the undersigned on or before 1st June, 1996:

1. Professors (Rs. 4500-7300) = 6 posts
One each in Botany, Electronics, Mathematics, Management Studies and two in Physics — One open (Lien bound) and one in Experimental Particle Physics/ Particle Phenomenology.
2. Readers (Rs. 3700-5700) one each in Chemistry, Sanskrit and Mathematics
3. Lecturer in Botany (Rs. 200-4000) = 1 post
4. Director Youth Welfare (Rs. 4500-7300) = 1 post

Prescribed application forms and other details can be obtained from Assistant Registrar (Forms and Stationary) personally on cash payment or by sending crossed postal order/Bank Draft worth Rs. 100/- drawn in favour of the Registrar, University of Jammu, Jammu - 180 004 encashable at Jammu Post Office/Bank.

REGISTRAR

DR YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND FORESTRY

NAUNI, SOLAN (HP)-173 230

Advertisement No. 03/96

Applications on the prescribed form are invited for the following posts :

I. POSTS IN THE UGC GRADE OF RS. 4500-7300

- (1) Professor (Entomology) - 1 : Ph.D. in concerned subject with research experience on insects of horticultural/forestry crops.
- (2) Professor (Vegetable) - 1 : Ph.D. in concerned subject with research experience in Vegetable Agronomy.
- (3) Professor (Basic Sciences) - 1 : Ph.D. in any branch of biological/physical/mathematical sciences.
- (4) Joint Director

(Communication) - 1 : Ph.D. in Horticulture/Forestry/Communication or related subject with experience in communication technologies as evidenced by published work. (5) Associate Director (Res & Extn) - 1 (for RHRS, Sharbo (Kinnaur) : Ph.D. in Horticulture/Forestry/allied disciplines.

Qualifications - General : (1) Ph.D. degree or equivalent in the subject with consistently good academic record. (2) Ten years teaching/research/extension education experience in the subject out of which at least five years experience should be as Assoc Prof/equivalent. (3) Significant contribution as evidenced by publications, articles in a journal of repute. (4) Ability to provide leadership to the department.

II. POSTS IN THE UGC GRADE OF RS. 3700-5700

(1) Assoc Prof (Hort) - 1 : Ph.D. in Horticulture with specialization in Fruit Breeding OR Ph.D. in Pomology/Horticulture with 5 years experience in Fruit Breeding. (2) Assoc Prof (Ento) - 1 : Ph.D. in concerned subject with specialization in Economic Entomology/Insect Pest Management of Hort/Fty crops. (3) Assoc Prof (Veg) - 1 : Ph.D. in Veg Crops preferably vegetable production. (4) Vegetable Breeder - 1 : Ph.D. in Veg crops preferably vegetable breeding. (5) Assoc Prof (Economics) - 1 : Ph.D. in Agril Economics with specialization in Forest Economics/Agr. Marketing. (6) Assoc Prof (Flori. & Landscaping) - 1 : Ph.D. (Floriculture)/Ph.D. (Hort., with specialization in Floriculture). Preferable : Experience in postgraduate teaching in Flori and research on commercial floriculture. (7) Floriculturist - 1 : Ph.D. (Floriculture)/Ph.D. (Hort., with specialization in Floriculture). Preferable: Experience in postgraduate teaching in Flori and research on commercial floriculture. (8) Assoc Prof (Fty) - 1 : Ph.D. in forestry or related field with adequate experience in silviculture and agroforestry. (9) Research Officer - 1 : Ph.D. in Forestry/Plant Sciences/Agroforestry. Desirable : Candidates with experience in Agroforestry will be preferred. NOTE FOR POSTS AT SR. NO. 8 & 9 : In case a suitable candidate with Ph.D. degree in forestry is not available, then a candidate having M.Sc. forestry/M.Sc. with AIFC would also be eligible.

Qualifications - General : (1) Ph.D. degree or equivalent in the subject with consistently good academic record. (2) 5 years teaching/research/extension education experience in the subject. (3) Significant contribution as evidenced by publications, articles in a journal of repute.

III. POSTS IN THE UGC GRADE OF RS. 2200-4000

(1) Asstt Scientist (Agro-Fty) - 1 (Reserved for ST) (Kandi Project at Nahan). Ph.D. in Agro-Forestry/Forestry. (2) Asstt Scientist (Fty) - 1 (Reserved for SC). Ph.D. in Agro-fy/Forestry. (3) Asst Prof (Pomology) - 1 (Reserved for ST). Ph.D. in Hort with specialization in Plant Propagation of Hortl Plants (Fruit, Vegetable and Floriculture) under controlled environmental conditions. (4) Assistant Professor (Veterinary Science) - 1. Master's degree in Veterinary Science (Medicine/Obstetris and Gynaecology) NOTE for Post at Sr. No. 4 : Candidates should be registered with the Veterinary Council of India and they should write their registration number in the application form. (5) Asstt Soil Chemist - 1 (Reserved for SC). Ph.D. (Fty/Soil Science). Candidates having good management experience in Agroforestry/watershed as well as analytic procedures will be preferred. (6) Asstt Scientist (Hort) - 1 (Kandi Project at Nahan). Ph.D. in Horticulture. (7) Asstt Extn Specialist (Agro-fy) - 1 (KVK, Baloo (Chamba). Ph.D. in Forestry/Agro-fy with aptitude in extension education. NOTE : For posts at Sr. No. III (1 to 7) : (i) Ph.D degree in the concerned subject relaxable to M.Sc. (for posts at Sr. Nos. 1, 2 and 7 - M.Sc. forestry/M.Sc. with AIPC) with consistently good academic record. (ii) Candidates holding Ph.D/M.Phil degrees at the time of their recruitment are entitled to 3/1 advance increments respectively.

Application forms can be had from the Registrar, Dr Y S Parmar University of Horticulture and Forestry, Nauni (Solani)-173 230 HP by sending application fee of Rs. 10/- in the shape of crossed Indian Postal Order payable to the Comptroller of this University alongwith a self addressed envelope of size 23 x 10 cm. Applications complete in all respects with attested copies of testimonials should reach the Registrar by 31.5.1996. Candidates applying from abroad may send their applications on plain paper giving particulars of date of birth, examination passed (from High School onwards) with division and percentage of marks obtained in the various examinations, teaching/research/extension experience with a list of publications, if any, so as to reach the Registrar by 15.6.96. Other instructions/conditions shall be supplied with the application forms to the candidates. In case of non-availability of SC/ST candidates (for the posts mentioned at Sr. No. III (1, 2, 3 and 5), these posts will be filled up by general category.

S.C. Negi
REGISTRAR

SMT PARVATIBAI CHOWGULE CULTURAL FOUNDATION'S COLLEGE OF ARTS AND SCIENCE, MARGAO-GOA 403 601

Applications with full bio-data are invited for the following posts so as to reach the Principal within 15 days from the date of publication of this advertisement. Applications must be accompanied by certified copies of mark sheets of all the examinations from S.S.C. onwards.

A. Posts of Lecturers reserved for SC/ST First Advertisement

- i) Full-time Lecturers
 - Botany, Geology, Mathematics, Physics, Psychology, Hindi, Electronics } one post each
 - Chemistry (four posts)
 - Computer Science (four posts)
- ii) Lecturers on lecture basis
 - Physics, Botany, Geography, Electronics, Computer Science.

B. Posts of Lecturers reserved for SC/ST Second Advertisement

Zoology, Botany, Chemistry, Sociology, Konkani, Computer Science (one post each)

C. Posts of Lecturers reserved for SC/ST Third Advertisement

English, Chemistry, Political Science (one post each) Computer Science (three posts)

D. Posts of Lecturers reserved for OBC

(De reserved SC/ST posts converted into OBC category)

Mathematics, Zoology, Computer Science, English, Marathi (one post each)

Minimum Qualifications :

For the Post of Lecturer in Computer Science :

- (a) First class B.E/B.Tech. in Computer Science or Electronics with two years experience of teaching/research/industry and NET/GATE OR
- (b) M.E/M.Tech. in Computer Science or Electronics with 55% marks and NET/GATE OR
- (c) M.C.A. OR M.Sc. in Computer Science OR Electronics with 55% marks and NET/GATE OR
- (d) M.Sc. in Mathematics or Statistics with 55% marks and with exposure to Computer Science and NET/GATE.

For the Post of Lecturers in Other Subjects :

- (a) A Master's degree of a recognised University in the relevant subject, with eight papers and atleast 55% marks or its equivalent grade and NET.
- (b) Desirable qualifications: M.Phil. or Ph.D. Degree in the relevant subjects.

Candidates for all the posts must have consistently good academic record.

Scale of Pay and terms and conditions of service are those laid down by the Goa University, Directorate of Education, Panaji, and other competent authorities.

Applicants who are already employed, shall forward their applications through proper channel and shall account for breaks, if any, in their academic career.

For posts under (B) and (C), only SC/ST candidates need apply. If suitable SC/ST candidates are not available, the existing incumbent may be continued for one academic year.

For posts under (D), only OBC candidates from the State of Goa need apply. If suitable OBC candidates are not available, the posts will be converted into General category.

For posts under (A), if suitable SC/ST candidates are not available, candidates from open category may be considered for appointment for one academic year on temporary basis.

For all posts if candidates who have passed NET are not available, other candidates may be considered for appointment on purely temporary basis.

V.R. SHIRGURKAR
PRINCIPAL

April 18, 1996



UNIVERSITY OF MADRAS

NOTIFICATION

Applications are invited for admission to the following Post-Graduate Courses in the University Departments for the academic year 1996-97.

CHEPAUK CAMPUS

MASTER OF ARTS

Ancient History & Archaeology
 Andragogy [Adult Education]
 Anthropology
 Applied Psychology and Psychological Services
 Christian Studies [Credit Based System]
 Communication [Credit Based System]
 Criminology
 Defence & Strategic Studies
 Econometrics [Credit Based System]
 Economics [Indian Economics]
 English
 French
 History
 Indian Music [Credit Based System]
 Indian Philosophy
 Jainology
 Public Affairs [Credit Based System]
 Public Management
 Saiva Siddhantha
 Sociology
 Valshnavism
 Work Education

MASTER OF COMMERCE

Business Systems [Credit Based System]

MASTER OF SCIENCE

Applied Geography [Credit Based System]
 Library & Information Science
 [2 year course] [Credit Based System]
 Mathematics [Credit Based System]
 Statistics [Credit Based System]

GUINDY CAMPUS

MASTER OF SCIENCE

Applied Geology [Credit Based System]
 Biochemistry [Credit Based System]
 Biophysics [Credit Based System]
 Chemistry
 Analytical Chemistry [Credit Based System]
 Environmental Chemistry [Credit Based System]
 Inorganic Chemistry [Credit Based System]
 Organic Chemistry [Credit Based System]
 Physical Chemistry [Credit Based System]
 Geology [Credit Based System]
 Molecular Biology [Credit Based System]
 Physics [Credit Based System]
 [a] Theoretical Physics
 [b] Nuclear Physics
 Plant Science [Credit Based System]
 Polymer [Five-Year Integrated Course]
 Zoology [Special] [Credit Based System]

MARINA CAMPUS

MASTER OF ARTS

Arabic	Sanskrit
Hindi	Tamil [Special]
Kannada	Tamil Literature & Culture
Malayalam	Telugu [Special]
Persian	Urdu

TARAMANI CAMPUS

MASTER OF SCIENCE

Anatomy [Faculty of Medicine-3 years]
 Biochemistry [Credit Based System]
 Biomedical Genetics [Credit Based System]
 Environmental Toxicology [Credit Based System]
 Microbiology [Faculty of Medicine-3 years]
 Physiology [Faculty of Medicine-3 years]

P.G. EXTENSION CENTRE, VELLORE CAMPUS

MASTER OF SCIENCE

Zoology

Admission to P.G. Courses in the University Departments will be based on:

The University Examination marks [Part III only excepting Language Courses] excluding the internal assessment marks; and,
 The entrance examination marks.

The weightage of University Examination marks and the Entrance Examination marks will be 50% each.

THE ENTRANCE EXAMINATION WILL BE OF ONE HOUR DURATION WITH "OBJECTIVE TYPE" QUESTIONS FOR A MAXIMUM OF 50 MARKS. THE CANDIDATE HAS TO TAKE THE ENTRANCE EXAMINATION IN THE RESPECTIVE SUBJECT IN WHICH HE/SHE GRADUATED [OR] AS PER THE INSTRUCTION OF THE CONCERNED HEAD OF THE DEPARTMENT.

THE CANDIDATES WHO HAVE APPLIED FOR A PARTICULAR COURSE [INTER-DISCIPLINARY ETC.], AND WHO WILL BE TAKING EXAMINATION IN THE SUBJECT IN WHICH THEY HAVE QUALIFIED, HAVE NECESSARILY TO TAKE INSTRUCTION FROM THE HEADS OF THE DEPARTMENTS WITH REGARD TO THE PLACE AND DATE OF EXAMINATIONS.

Application can be had from the Registrar, University of Madras, Madras - 600 005 on written requisition with a DEMAND DRAFT for Rs 100/- drawn in favour of THE REGISTRAR, UNIVERSITY OF MADRAS, either in person or by post with a self-addressed cover [size 28x13 cms] stamped for Rs. 8/- towards ordinary postage. Postal ORDERS AND MONEY ORDERS WILL NOT BE ACCEPTED. The University is not responsible for any delay or loss in transit.

[Note. Separate Application form is required for each course]

LAST DATES FOR ISSUING AND RECEIVING THE FORMS ARE AS FOLLOWS:

- | | |
|---|----------------|
| 1 Issue of Application form through post | ... 05-06-1996 |
| 2 Issue of Application form in person at the University | ... 10-06-1996 |
| 3 Submission of filled-in Application form | .. 01-07-1996 |

Filled-in Application forms for Admission along with required certificates should be sent directly to the Heads of the University Departments concerned, so as to reach them before the expiry of the last date prescribed.

Applications should not be sent to the Registrar, University of Madras.

The University reserves the right to suspend the conduct of any course, if the circumstances so warrant.

University Buildings
 Chepauk, Madras - 600 005

REGISTRAR

INDIAN SCHOOL OF MINES

DHANBAD - 826004

(Advert. No. 410001/96-Estt Dated 23.4.1996)

Invites application for Faculty/Administrative positions in the various Departments/Offices as under:

Assistant Professor: (Mining Engineering) Rock Excavation

Lecturer :

Mining Engineering : Rock Excavation, Opencast Mining, Mine Surveying, Underground Coal Mining

Petroleum Engineering : Petroleum Engineering, Petroleum refining and petrochemical engineering

Mining Machinery: Stress analysis, Fluid mechanics, Machine design, Thermal Engineering

Fuel and Mineral Engineering : Industrial mineral processing, non-coking coal beneficiation, Fuel Technology

Applied Geology: Coal geology and coal petrography

Applied Geophysics: Well logging, Geophysical Instrumentation

Deputy Registrar:

Assistant Registrar:

Qualification and Experience:

Assistant Professor: First class Master's degree in appropriate branch of Engineering/technology, 5 years experience in teaching/industry/research, at the appropriate level.

Lecturer: First class bachelor's degree in engineering/technology or M.Sc with at least 55% marks or equivalent in appropriate branch and qualifying in All India Examination conducted by UGC/CSIR or equivalent test or should have submitted Ph.D thesis or completed M.Phil by 31.12.1993 For the post in mining engineering Candidates possessing First Class Coal Mine Manager's Certificate of Competency or Mine Surveyor's Certificate granted under the Mines Act will be preferred.

Deputy Registrar: A postgraduate degree with at least 55% marks or equivalent grade. 8 years experience as Asst. Registrar or in a post with a scale of pay Rs. 2200-4000/- Pass at final examination of Institute of Chartered Accountants/Cost and Works Accounts/Company Secretary or SAS examination of C.A.G of India or similar examination and knowledge of financial rules, accounting/establishment procedure, budget preparation, computerised information processing and retrieval will be preferred.

Assistant Registrar: Postgraduate degree with atleast 55% marks or equivalent grade. Experience in Purchase and Stores, recruitment, establishment, finance and accounts, audit is desirable. Pass in SAS/ICWA(Inter)/CA(Inter) (for finance and accounts) will be preferred.

Post	Pay	Age
Assistant Professor	Rs. 3700-5700	Within 45 years
Lecturer:	Rs. 2200-4000	Within 35 years
Deputy Registrar	Rs. 3700-5700	Within 45 years
Assistant Registrar	Rs 2200-4000	Within 35 years
The posts also carry allowances, medical, LTC benefits and GPF-cum-gratuity-pension benefits as are applicable to Indian School of Mines as Deemed to be University.		

Applications on plain paper with full particulars of date of birth, educational qualifications, experience etc, and a crossed bank draft of Rs. 25/- drawn in favour of Registrar, Indian School of Mines, payable at Indian School of Mines Campus Branch, State Bank of India, Dhanbad may be sent in closed cover marked as "Application for faculty/Administrative positions", to the Registrar by 15th June 1996. The School reserves the right to relax the above conditions if otherwise exceptionally good candidates are available. Certain posts of Lecturer/Asst. Registrar are reserved for SC/ST/OBC candidates as per Govt. of India rules.

B L Jha
REGISTRAR